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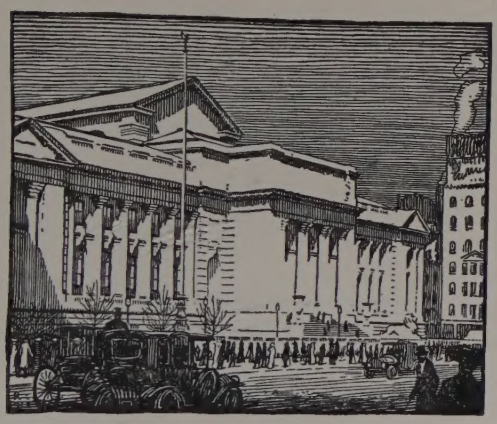

JULY 1927

VOLUME 31 - - - NUMBER 7

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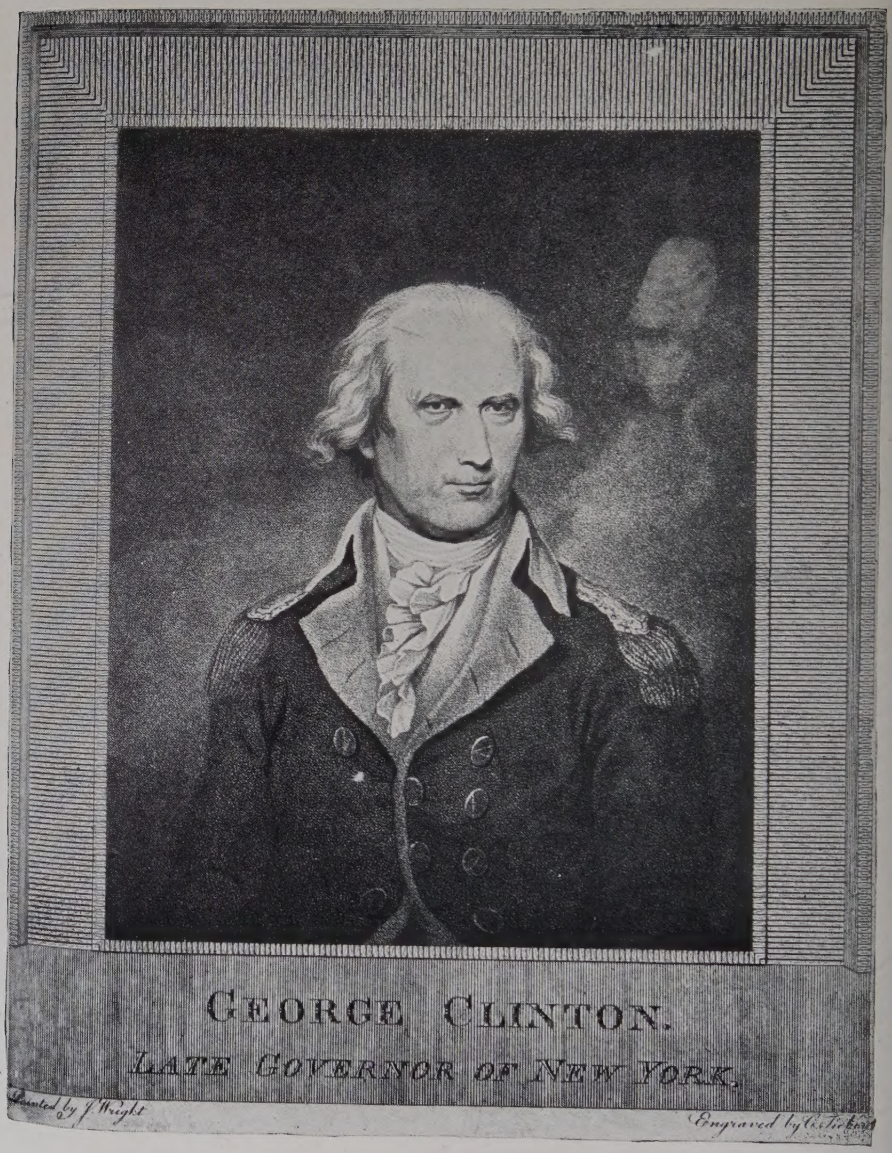

SEVEN TIMES ELECTED GOVERNOR OF NEW YORK

1777–1795; 1801–1804

BULLETIN

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OLUME 31 | JULY, 1927 | NUMBER 7

CALENDAR OF MESSAGES AND PROCLAMATIONS OF GENERAL GEORGE CLINTON

FIRST GOVERNOR OF THE STATE OF NEW YORK

WITH SOME LEGISLATIVE RESPONSES

August, 1777, to September, 1781

Compiled by MISS MABEL C. WEAKS, under the Direction of

VICTOR HUGO PALTSITS

Chief of the American History Division and Keeper of Manuscripts

On July 30, 1777, at Kingston, General George Clinton was inaugurated e first Governor of the State of New York. It is particularly fitting to mmemorate an important anniversary in the history of the State by pre- ting in the July issue of the Bulletin this calendar of a notable volume manuscripts given to the Library by Mr. George F. Baker, Jr., a member its Board of Trustees.

HERE are assembled 190 items on 112 leaves, including two printed broadsides; the whole constituting a fundamental official record of the ate of New York, during its most critical early years. These records are the icial file, made under the direction of Governor Clinton, of drafts or copies papers sent and of those that were received by him. The collection is a cent discovery, its existence not having been known to historians. As not all the documents seem to have been printed, an indication has been made in e calendar when they have been discovered in print. Undoubtedly others

were printed in the original legislative journals, or in the contemporary newspapers, and the proclamations as broadsides. Some twenty-nine of these documents have the personal signature of the governor. Mainly, they are in the handwriting of Stephen Lush,[1] private secretary to the governor, or of Robert Benson,[2] a secretary of the Council of Safety and a clerk of the State senate. Besides these there is some writing of Richard Hatfield,[3] acting secretary for a while to the governor in 1778, and there are some attested papers signed by Evert Bancker, secretary, or Pierre Van Cortlandt, president of the State senate.[4]

The calendar is principally the work of Miss Mabel C. Weaks of the Manuscript Division. The pieces are numbered in red ink in the original manuscript and these numbers are printed in the following calendar at the end of each item for citation and convenience of location. When a document is known to have been printed in any form, the fact is shown, following the entry, by a key-note, in which a * means *Public Papers of George Clinton;* a † means *Messages from the Governors,* and a § means *Journals of Provincial Congress,* [etc.], vol. I, in which the "Journal of the Council of Safety," is printed. The word "Copy" indicates that the document is an official record copy. D. S. means that the document bears the original official signature.

V. H. P.

CALENDAR

Council of Safety.— Proclamation, July 30, 1777, declaring George Clinton to be "Governour General and Commander in Chief . . . and Admiral of the Navy of this State." Kingston: Printed by John Holt, Printer to the State of New-York, [1777]. Broadside. F°. Imperfect. (1)

Five hundred copies were ordered printed by the Council of Safety.— *Jour. N. Y. Prov. Congress,* I: 1022.

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[1] Stephen Lush, a native of New York City and a graduate of Kings (now Columbia) College, was admitted to the bar in 1774, at the age of twenty-one years. He engaged in the American Revolution as a captain in Spencer's Additional Continental Regiment, January, 1777, and rose to major. He served General George Clinton as an aide-de-camp, and was his private secretary as governor. Lush was taken prisoner at the storming of Fort Montgomery, October 6, 1777, and suffered on the Jersey prison-ship. After the war he moved to Albany and married Lydia, daughter of Dr. Samuel Stringer, noted as physician and patriot.

[2] Robert Benson (1739–1823) was enrolled among the "Sons of Liberty"; was a secretary of the first provincial Congress of New York in 1775, and one of the secretaries of the Council of Safety, 1777–1778. He was clerk of the State senate during its first six sessions and during the seventh session till February 18, 1784, leaving to become the county clerk of New York. In the American Revolution he was also a lieutenant-colonel and served as confidential aide-de-camp to Clinton, 1777–1783.

[3] Richard Hatfield was of Westchester County, of which he was county clerk, September 22, 1777, and surrogate, March 23, 1778. He was a delegate from that county to the State convention which ratified the Federal Constitution in 1788.

[4] Until June 30, 1778, when he was chosen lieutenant-governor.

Governor.—"A Description of the Devices of the Arms, Great Seal & Privy Seal of the State of New York." Draft of Governor Clinton's certification, August 24, 1778. 2 p. 4°. Imperfect. (2)

Governor.— Message of Governor Clinton to the Council of Safety, August 5, 1777, in regard to proroguing the legislature by proclamation under his own seal in the absence of a great seal. Draft. D. S. 1 p. F°. (3)

Governor.— Proclamation by Governor Clinton, August 4, 1777, proroguing the legislature until August 20. Copy. ½ p. F°. (4)
* II: 186; § I: 1027.

Governor.— Proclamation of Governor Clinton, at Kingston, August 18, 1777, proroguing the legislature from August 20, to September 1. D. S. ¼ p. F°. (5)
* II: 230.

Governor.— Message of Governor Clinton to the legislature, Kingston, September 10, 1777, relative to military defenses, revision of the militia laws, the public debt, provision for the support of the government, the passing of a law for conducting elections, and the importance of maintaining the independence of the executive, legislative, and judicial departments of the government. D. S. 6 p. F°. (6)
* II: 297; † II: 7.

Governor.— Message of Governor Clinton to the Senate, Kingston, September 12, 1777, transmitting the proceedings of a meeting of committees from the States of New Hampshire, Massachusetts Bay, Rhode Island, Connecticut, and New York, at Springfield, Hampshire County, July 30, 1777, relative to the state of the paper currency of said governments and other matters therein mentioned. Copy. ½ p. F°. (7)

Assembly.— Address of the Assembly sitting at Kingston, September 13, 1777, in answer to Governor Clinton's speech. Congratulating him on his election to office and expressing confidence in his integrity and ability; happy to have an opportunity "to assist in the organization of our free constitution"; declaring confidence in the late Council of Safety; commending the late General Herkimer's success; expressing gratitude for victory near Bennington and approval of General Clinton's recent military operations; convinced of the necessity of revising militia laws; will give immediate attention to public debts; will try to apply proper remedies for evils arising from the want of a government properly organized; will make proper provision for officers of government; will concur with Senate in enacting a law regulating the mode of elections; and will give due regard to matters presented by the Governor for consideration. Signed by Walter Livingston, Speaker. Copy. 1 p. F°. (8)

Governor.— Message to the Assembly, Kingston, September 13, 1777, expressing thanks for congratulations on his election to office and for confidence reposed in him. Is pleased that the measures he has taken for the defense of the State meet with approbation of the House, and that the House agrees with him in the necessity of executing measures proposed for consideration. Copy. 1 p. F°. (9)

Governor.— Message of Governor Clinton to the Assembly, September 16, 1777, transmitting copies of papers received from the Committee of Tryon County relative to the military situation in that quarter; suggesting that troops be raised for the defense of the inhabitants; that commissioners be appointed for settling disorders; that measures be taken for apprehending persons dangerous to the State, and respecting prisoners. Copy. 2 p. F°. (10)

†II: 13.

Governor.— Message of Governor Clinton to the Senate, Kingston, September 17, 1777, transmitting extract of a letter relative to a member of the Senate, and informing that the remainder of the letter, accompanied by other papers received from the Committee of Tryon County, has been laid before the legislature through the Assembly. Copy. ½ p. F°. (11)

Governor.— Message of Governor Clinton to the Senate, September 18, 1777, informing that body that on the 16th, the Assembly had appointed John Morin Scott, a senator from the southern district, Jesse Woodhill from the middle district, Abraham Yates from the western district, and Alexander Webster from the eastern district, to constitute the Council of Appointment. Copy. ½ p. F°. (12)

Senate.— Address of the Senate sitting at Kingston, September 18, 1777, in answer to Governor Clinton's speech at the opening sessions of the legislature. Discussing the military situation and approving proposed measures relative to the militia laws, finances, elections, etc. Signed by Pierre Van Cortlandt, President. D. S. 6½ p. F°. (13)

The body of the document is in the handwriting of Robert Benson, clerk.

Governor.— Message of Governor Clinton to the Senate, Kingston, September 22, 1777, expressing his pleasure that the steps he took for the defense of the State and the measures he recommended for consideration have been approved. Copy. ½ p. F°. (14)

Governor.— Message of Governor Clinton to the Assembly, Kingston, September 22, 1777, transmitting copies of the proceedings and resolutions of Congress ordering an enquiry into the causes of the evacuation of Ticonderoga and Mount Independence and the conduct of the General Officers who were in the Northern Department at the time of the evacuation; and

ecommending the necessity of adopting proper measures for collecting and tating the facts. Copy. ½ p. F°. (15)

Lincoln, in *Messages*, says this message was transmitted to the Senate, ept. 29, 1777.

Council of Safety.— Letter to Governor Clinton, Hurley, December 16, 777, enclosing resolutions concerning grants of flags of truce and suggesting hat copies be sent to the commanding officers of the different posts. Fears hat the enemy will retaliate in kind for the burning of the De Lancey Manion. Signed by Evert Bancker, President pro-tem. D. S. 2 p. F°. (16)

The body of the document is in the hand of Robert Benson, Secretary.

Council of Safety.— Resolutions passed at Hurley, December 16, 1777, oncerning the granting of flags of truce. Signed by Robert Benson, Secreary. A. D. S. "Extract from the Minutes." 2 p. F°. (17)

Endorsed: Resolution of Council of Safety Decr 17, 1777 — respect^s the ubjects of this State passing to the Enemy by Flags, &c. With Letter enclosig it.

Council of Safety.— Resolutions passed at Poughkeepsie, January 4, 778, requesting Governor Clinton to raise seven hundred men by levies detachments from the State militia for the defense of Westchester County nd other parts of the State. Signed by Robert Benson, Secretary. A. D. S. Extract from the Minutes." 1 p. F°. (18)

Endorsed: Council of Safety enabling the Govr to raise 700 men for efence of W:Chester County.

Council of Safety.— Resolutions passed at Poughkeepsie, January 4, 778, reviving and enforcing certain resolutions of the Council of Safety assed July 31, 1777, for laying assessments on the exempts from duty in the ate militia for the benefit of those who may be drafted for actual service in e militia. Signed by Robert Benson, Secretary. D. S. 1 p. F°. (19)

Convention.— Resolutions passed at Poughkeepsie, January 7, 1778, auorizing Governor Clinton to draw £5000, for the purpose of working the ad mines in the State at continental expense. Signed by Pierre Van Cortndt, President, and Robert Benson, Secretary. D. S. 1 p. (20)

Endorsed: 7–1778 empowering the Govr to draw from the Treasury 000, for the Purpose of working the Lead Mines at Rochester.

Governor.— Proclamation issued by Governor Clinton at New Windsor, ovember 10, 1777, setting apart Thursday, December 18, as a day of ayer and thanksgiving. D. S. 2½ p. F°. (21)

Endorsed: Proclamation setting a Part the 18th. Decr for Public Thanksving & Prayer.

Governor.— Proclamation issued by Governor Clinton at Poughkeepsie December 15, 1777, calling a meeting of the legislature at Poughkeepsie January 5, 1778, to consider important matters recommended by the Congress. Copy. ½ p. F°. (22)

*II: 578.

Senate.— Resolutions passed at Poughkeepsie, January 15, 1778, expressing the opinion that all business and proceedings which were depending and undetermined in the Senate on October 7, 1777, are still depending and undetermined, and that the Senate will proceed thereon. Signed by Robert Benson, Clerk. Copy. ½ p. F°. (23)

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie, January 16, 1778, transmitting the proposed Articles of Confederation and perpetual union between the United States of America, with a letter from Congress of November 17, 1777, recommending them for consideration; also a copy of a letter from General Washington, December 29, 1777, enclosing a return of regiments commanded by Colonels Cortlandt and Livingston, and another letter from Francis Lightfoot Lee of December 30th. Copy. ½ p. F°. (24)

*II: 676; †II: 17.

Governor.— Message of Governor Clinton to the Assembly, Poughkeepsie, January 16, 1778, transmitting several resolutions of Congress, an act of the legislature of the State of Massachusetts Bay, and a resolution of the House of Representatives of that State, October 9, 1777, showing financial measures the State is pursuing; and stating the necessity for legislation to secure communication of Hudson River and the passes of the Highlands. Copy. 2 p. F°. (25)

*II: 676.

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie, January 22, 1778, recommending that a loan be made to Col. [Hugh] Hughes, Deputy Quartermaster-general, to meet the expense of works for the security of the Hudson River, and enclosing a copy of a letter from Hughes. Copy. ½ p. F°. (26)

*II: 687; †II: 19.

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie, January 28, 1778, submitting for consideration a letter of Cadwallader Colden, a prisoner of the State, and a petition of the inhabitants of the District of Coxsackie, Albany County, in behalf of John Cunning, also a State prisoner. Copy. ½ p. F°. (27)

*II: 698.

Governor.— Message of Governor Clinton to the Assembly, Poughkeepsie, January 30, 1778, transmitting extract of a letter from Colonel

ivingston in which he proposes to let to the public his iron furnaces, forges, d appurtenances for a reasonable compensation. Copy. ½ p. F°. (28)
*II: 701; † II: 20.

Governor.— Message of Governor Clinton to the Assembly, Poughepsie, February 3, 1778, transmitting copies of letters received from Jacob uyler, Deputy Commissionary-general of Purchases for the Northern epartment and Major General [William] Heath; also copies of letters ceived from the chairman of the Committee of Ulster County and copy of act of Congress, December 29, 1777, for the punishment of inhabitants the United States who shall be taken in arms against the United States; so recommending that relief be granted to the families of persons who were lled or taken captives at Fort Montgomery. Copy. 1 p. F°. (29)
*II: 715.

Governor.— Message of Governor Clinton to the Assembly, Poughepsie, February 6, 1778, asking that measures be adopted to restore order d good government in the Eastern District, where an effort is being made separate that country from the State; and enclosing papers in the matter, well as a copy of proceedings of the late Convention at New Haven for gulating the price of labor. Copy. 2 p. F°. (30)
*II: 721; †II: 24.

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie, bruary 12, 1778, recommending for consideration a petition of the comttee and a number of freeholders of Tryon County. Hopes relief will be ven to the families of those who fell in action under General Herkimer; closing copies of resolutions of Congress, December 19, 1777, and January , 1778, relative to treatment of prisoners of war. Copy. 1 p. F°. (31)
*II: 746; †II: 24.

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie, bruary 18, 1778, transmitting a copy of a letter from James Deane to the mmissioners of Indian Affairs for the Northern Department, February 5, 78, with a copy of a letter from the commissioners to Congress; also copy a letter from Gen. [Philip] Schuyler, February 8, 1778, all relative to the stile disposition of the Indian tribes and showing the necessity of adopting asures to protect the western frontiers. Copy. ½ p. F°. (32)
*II: 776; †II: 26.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, February , 1778, commanding all officers of the militia and all chairmen and other mbers of committees within the State to forbear granting flags and permits, d commanding the inhabitants of the State not to pass to the enemy without per license. D. S. 1 p. F°. Seal attached. (33)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, February , 1778, making overtures to disaffected persons in Albany, Charlotte, Cum-

berland, and Gloucester counties who are engaged in a contest arising fro conflicting grants of land by the governments of New York, Massachuset Bay, and New Hampshire prior to establishment of the eastern boundary c New York. Printed broadside. Signed by Governor Clinton. F°. Se attached. (34

Governor.— Proclamation by Governor Clinton, Poughkeepsie, Marc 26, 1778, setting apart April 22, 1778, as a day of fasting, humiliation, an prayer. D. S. 2 p. F°. Seal attached. (35

Governor.— Message of Governor Clinton to the Assembly, Pough keepsie, March 10, 1778, requesting that 700 militia men be raised for servic in obstructing, fortifying and securing the passes of the Hudson River i compliance with a resolve of Congress of February 18, 1778. Has requeste 2300 militia men from the States of Connecticut and Massachusetts for th same service. Transmitts copy of a resolution of Congress, February 9, 1778 recommending laws be passed for speedy and effectual recovery of debts du the United States of America. Copy. 1¼ p. F°. (36

*III: 18; †II: 31.

Governor.— Message of Governor Clinton to the Assembly, Pough keepsie, March 16, 1778, submitting a copy of an act of Congress, Februar 26, 1778, for filling the Continental Battalions and a copy of a report fro the Board of War showing the number necessary to complete them; also copy of an act of Congress, February 26, 1778, respecting the exchange o prisoners. Copy. ¾ p. F°. (37

*III: 47; †II: 33.

Governor.— Message of Governor Clinton to the Senate, Poughkeepsi March 21, 1778, transmitting a resolution of Congress, March 21, 1778 suggesting that some means be devised for removing disaffected persons fro the vicinity of posts, forts and passes in the State; informing that certai persons have collected quantities of provisions which they refuse to sell at th current price for paper money; and informing that he has ordered a consider- able body of militia to the Highlands. Copy. ½ p. F°. (38

*III: †II: 33.

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie March 26, 1778, transmitting copies of letters that he has received fro Major General [Philip] Schuyler and Colonel Williams which merit th attention of the legislature. Copy. ¼ p. F°. (38a

*III: 85.

Governor.— Commission by Governor Clinton, Poughkeepsie, April 2 1778, to James Duane as Commissioner for Indian Affairs in the Norther Department. Copy. 1 p. F°. (39

Entirely in the hand of Robert Benson, Private Secretary.

Governor.— Reprieve issued by Governor Clinton to the sheriff of Dutchess County, April 23, 1778, staying the execution of Samuel Jenkins, a laborer of Philipse's Precinct, until May 24, 1778. Copy. 1 p. F°. (40)

Statement added, May 20, 1778, that the governor issued a pardon to Jenkins under the great Seal.

Governor.— Reprieve issued by Governor Clinton to the sheriff of Dutchess County, April 23, 1778, staying the execution of Daniel Cornell, yeoman, late of Fredricksburgh Precinct, until May 24, 1778. Copy. 1 p. F°. (41)

Statement added, May 20, 1778, that the governor issued a pardon to Cornell under the great seal.

Governor.— Reprieve issued by Governor Clinton to the sheriff of Dutchess County, April 23, 1778, staying the execution of Gideon Simpkins, yeoman of Fredricksburgh Precinct, until May 24, 1778. Copy. 1 p. F°. (42)

Statement added, May 20, 1778, that the governor issued a pardon to Simpkins under the great seal.

Governor.— Reprieve issued by Governor Clinton to the sheriff of Dutchess County, April 23, 1778, staying the execution of Daniel Morgan, yeoman of the Northeast Precinct, until May 24, 1778. Copy. 1 p. F°. (43)

Statement added, May 20, 1778, that the governor issued a pardon to Morgan under the great seal.

Governor.— Reprieve issued by Governor Clinton to the sheriff of Dutchess County, April 23, 1778, staying the execution of Myndert Harris, yeoman, late of Beekman's Precinct, until May 24, 1778. Copy. 1 p. F°. (44)

Statement added, May 20, 1778, that the governor issued a pardon to Harris under the great seal.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, May 1, 1778, assigning and appointing the town of Poughkeepsie, Dutchess County, as the place of meeting of the legislature on the second Tuesday in June. D. S. 1 p. F°. Seal attached. (45)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, June 22, 1778, dwelling upon the military situation, the dangers that menace the country, the machinations of the enemy, and the disaffected subjects in the northeastern part of the State. Copy. 5 p. F°. (46)

*III: 478; †II: 43.

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, June 22, 1778, submitting accounts tendered to him for payment by

Captain Cregier, commissary for Capt. Robert Johnson's company of rangers. The expenditures exceeded the sum allowed by Congress; the necessity of doing justice to persons who furnish supplies to the militia. Copy. 1 p. F°. (47)

*III: 483.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, September 1, 1778, calling a meeting of the legislature at Poughkeepsie on Thursday, October 1. D. S. 1 p. F°. Seal attached. (48)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, October 12, 1778, giving brief account of movements of the enemy and condition of the State. D. S. 4½ p. F°. (49)

*IV: 155; †II: 50. In both of the printed texts the date is October 13.

Assembly.— Address of the Assembly sitting at Poughkeepsie, October 16, 1778, in answer to Governor Clinton's speech at the opening session of the legislature. Congratulations on the prospect of a speedy and honorable termination of the war; assurance that provision will be made for the safety and defense of the western frontiers; controversy relative to the rights of the soil in the northeastern part of the State; determination to maintain the jurisdiction of the State throughout the whole of it; taxation the only effectual and rational remedy for depreciation of paper currency. Signed by Walter Livingston, Speaker. Copy. 2½ p. F°. (50)

Governor.— Message of Governor Clinton to the Assembly, Poughkeepsie, October 16, 1778, expressing thanks for the address of October 16th and assuring coöperation in execution of measures calculated to promote the interest and prosperity of the State. Copy. ⅓ p. F°. (51)

*IV: 178.

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, October 16, 1778, transmitting copies of letters from General Washington, Col. [Clement] Biddle, Commissary of Forage, Charles Pettit, Assistant Quartermaster-general, and Royal Flint, Assistant Commissary-general of Purchases, relative to difficulty of procuring forage, flour and wheat for the army; also a letter from the Common Council of the City of Albany concerning the conduct of monopolists of flour and wheat. Copy. 2 p. F°. (52)

*IV: 178; †II: 54.

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, October 17, 1778, presenting the memorial of John Beebe, Philip Frisbe and other inhabitants of King's District in Albany County with a statement of their case; also a paper signed by inhabitants of Peinpack on western frontier of Ulster County requesting that a company of rangers be raised for their protection, and copies of two letters giving an account of depredations of the enemy in that quarter. Copy. ½ p. F°. (53)

*IV: 166; †II: 54.

Governor.— Message of Governor Clinton to the [Assembly], Pough-
eepsie, October 18, 1778, asking that proper disposition be made of $100,-
00. advanced by Congress for the use of the State, this sum being in the
ands of the delegates, William Duer and Gouverneur Morris, for the want
f a safe conveyance; transmits returns of clothing now in the public stores
f the State, a letter from Peter T. Curtenius, commissary, and a resolution of
ongress, September 8, 1778, relative to clothing of the army. Copy. 1 p.
°. (54)
*IV: 179; †II: 55.

Senate.— Address of the Senate, [Poughkeepsie, October 22, 1778], in
nswer to Governor Clinton's speech. The military situation; commendation
f General Washington; satisfaction over improved condition of inhabitants
f northern frontier; approval of measures taken by Governor for security of
habitants on western frontier; fears that disorderly conduct of inhabitants
n northeastern frontier will, if unopposed by Congress or the State, establish
precedent that will render the Confederation a mere dead letter; will con-
r with House in measures to discharge public debt, to stop depreciation of
per currency, and to make further provision for militia. Copy. 3 p. F°.
*IV: 173. (55)

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie,
ctober 22, 1778, acknowledging address in which approbation of his conduct
d confidence in his attention to the public interest are expressed. Copy.
p. F°. (56)
*IV: 175.

Governor.— Message of Governor Clinton to the legislature, Pough-
epsie, October 22, 1778, transmitting copy of a resolution of Congress,
ctober 12, 1778, which is intended for the encouragement of religion and
orals. Copy. 1/3 p. F°. (57)
†II: 56.

Governor.— Message of Governor Clinton to the legislature, Pough-
epsie, October 28, 1778, transmitting copy of a letter from General Wash-
gton relative to difficulty of obtaining flour and forage for the army; also a
tter from Col. [Udney] Hay, Deputy Quartermaster-general, and copy of
Resolve of Congress, October 16, 1778. Copy. ½ p. F°. (58)
†II: 56.

Governor.— Message of Governor Clinton to the legislature, Pough-
epsie, October 31, 1778, recommending that further provision be made for
pplying necessaries to the five Continental Battalions raised under direction
the State; transmitting letter from Mr. Currie on the same subject; and
ferring to the consideration of the legislature sundry pay rolls for services
rformed by the militia at the request and in aid of the Civil Magistrate.
opy. ½ p. F°. (59)
*IV: 217; †II: 57.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, October 31, 1778, offering rewards for the apprehension of Claudius Smith, Richard Smith, James Smith, John McArthur, George Davis, Nathaniel Briggs, John Ross, John William Shock, Thomas Wood Jr., Jacob Kimble, John Rypenburgh, Junie Stoplebeen, Joseph McKeel, James Heustis, and James Hughson. D. S. 2 p. F°. Seal attached. (60)

Governor.— Message of Governor Clinton to the [Senate], Poughkeepsie, November 2, 1778, complying with resolution of November 1st, in which he is requested to give information in regard to the improper use of flags and violations of the embargo law. Copy. 2 p. F°. (61)
†II: 57.

Governor.— Proclamation issued by Governor Clinton at Poughkeepsie. November 27, 1778, setting apart Wednesday, December 30th as a day of public thanksgiving and praise. D. S. 2 p. F°. Seal attached. (62)

Governor.— Reprieve issued by Governor Clinton to the sheriff of Orange County, January 19, 1779, staying execution of Amy Auger, wife of James Auger of Goshen Precinct, until March 22, 1779. Copy. 1 p. F°. (63)

Governor.— Reprieve issued by Governor Clinton to the sheriff of Orange County, January 19, 1779, staying execution of Matthew Dollson until March 22, 1779. Copy. 1 p. F°. (64)

Governor.— Reprieve issued by Governor Clinton to the sheriff of Orange County, January 19, 1779, staying execution of John Ryan until March 22, 1779. Copy. 1 p. F°. (65)

Governor.— Message of Governor Clinton to the legislature, January 28, [1779], submitting letters from a committee of Congress dated November 11th, and from Col. Udney Hay, January 20, 1779, relative to affairs of the Commissary and Quartermaster departments, difficulties in obtaining supplies for the army, and distress of the soldiers; recommending amendments to the law for regulating impresses. Copy. 1 p. F°. (66)
*IV: 525; †II: 66.

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, January 28, 1779, transmitting resolutions of Congress, January 2 and 5, on the subject of finance and recommending that measures be taken for their execution; also sending an act of Congress, September 26, 1778, for organizing the public treasury and an act of January 1, 1778, recommending that the several States adopt measures for detecting persons employed in making or passing counterfeit bills. Copy. 1 p. F°. (67)
*IV: 523; †II: 65.

Governor.— Message of Governor Clinton to the legislature, January 29, 1779, transmitting copies of treaties of amity and commerce and of alliance between France and the United States; also acts of Congress, August 26,

76, September 25, 1778, and November 24, 1778, and papers respecting affected subjects in the northeastern parts of the State. Copy. 1 p. F°.
*IV: 524; †II: 67. (68)

Governor.— Message of Governor Clinton to the legislature, Poughepsie, January 30, 1779, submitting case of Amy Auger of Orange County, ose execution has been suspended until March 20, 1779. Copy. 1 p. F°.
†II: 67. (69)

Governor.— Message of Governor Clinton to the legislature, Poughepsie, January 30, 1779, submitting letter from Gov. [William] Greene Rhode Island, January 7, 1779, telling of great scarcity of bread there and uesting that the embargo law be so far dispensed with as to permit the nsportation of flour and corn from New York into Rhode Island. Copy. . F°. (70)
†II: 68.

Governor.— Message of Governor Clinton to the legislature, Poughpsie, February 2, 1779, transmitting several acts of Congress, which plement the papers that accompanied his message of January 28, 1779, on nces. Copy. ½ p. F°. (71)

Governor.— Message of Governor Clinton to the legislature, Poughpsie, February 8, 1779, transmitting an act of the legislature of New mpshire for preventing the return to that State of certain persons therein ned and of others who have joined or shall join enemies of the United es; also a letter from Jeremiah Powell, President of the General Assem- of the State of Massachusetts Bay, respecting the scarcity of wheat and r in Boston, and requesting permission to export 3000 barrels of flour n New York State. Draft. ½ p. F°. (72)
IV: 549; †II: 69.

Governor.— Message of Governor Clinton to the legislature, Poughosie, February 12, 1779, transmitting a printed copy of certain resolutions he Executive Council of Pennsylvania, dated February 3, with a copy of er from the President of the Council requesting him to communicate them he legislature. Copy. ½ p. F°. (73)

Governor.— Message of Governor Clinton to the legislature, Poughosie, February 18, 1779, submitting for consideration a resolution of gress, February 8, 1779, directing the President to write to governors of necticut and New York requesting them to furnish flour and provisions he distressed inhabitants of Rhode Island and Providence Plantations, ther with a copy of the President's letter on the subject. Copy. ½ p. F°.
IV: 580; II:69. (74)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, March 2, 1779, transmitting an account of expenditures for expresses and other contingent charges and of monies advanced by him pursuant to concurrent resolutions and a law of the State. Copy. ½ p. F°. (75)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, March 5, 1779, submitting petitions from the inhabitants of Tryon County and of Marbletown and Rochester in Ulster County representing the exposed situation of the western frontier of the State. Copy. ½ p. F°. (76)

Governor.— Reprieve issued by Governor Clinton to the sheriff of Orange County, Poughkeepsie, March 9, 1779, staying execution of Matthew Dolson and John Ryan until May 28, 1779. Copy. 1½ p. F°. (77)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, March 15, 1779, transmitting letter delivered to him by gentlemen who now come in person to represent to the legislature the distressed situation of the inhabitants of Massachusetts Bay occasioned by the scarcity of flour and grain. Copy. ⅓ p. F°. (78)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, March 20, 1779, directing that the Supreme Court of Judicature of the State be held at Albany until further orders are given. D. S. 1½ p. F°. Seal attached. (79)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, April 16, 1779, recommending that the first Thursday in May, 1779, be observed as a day of fasting, humiliation and prayer, in accordance with resolution of Congress, March 20, 1779. D. S. 2 p. F°. Seal attached. (80)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, July 17, 1779, calling a meeting of the legislature at Kingston, Ulster County, August 9, 1779. D. S. 1 p. F°. (81)

Governor.— Reprieve issued by Governor Clinton to the sheriff of Ulster County, Poughkeepsie, July 27, 1779, staying execution of Joseph Brown, William McCrary, and Josiah Wood until August 20, 1779. Copy. 1 p. F°. (82)

On reverse: A further respite was granted by Governor Clinton at Kingston, August 18, 1779, fixing the date of execution on the first Friday in September.

Governor.— Message of Governor Clinton to the legislature at the opening of the session, Kingston, August 24, 1779. Reasons for calling early session; general condition of the State; a considerable part of Westchester County laid waste by the enemy; settlements on northern and western frontiers undisturbed for the most part; robberies and other offenses against the public peace becoming less frequent; necessity for taking immediate steps to restore order in the northeastern part of the State; submitts letter from

eneral Washington, May 22, 1779, and sundry resolutions of Congress specting clothing and recruiting of Continental regiments and finances; commends the subject of the currency for the most serious consideration. py. 3 p. F°. (83)

*V: 205; †II: 75.

Governor.— List of "Papers laid before the Legislature with the Speech" Governor Clinton, August 24, 1779. Copy. 1 p. F°. (84)

Governor.— Message of Governor Clinton to the legislature, Kingston, igust 24, 1779, announcing that he had suspended execution of Jonah ood, who had been convicted of murder, and the case was therefore subtted to the legislature for its consideration. Copy. ½ p. F°. (85)

Governor.— Reprieve issued by Governor Clinton to the sheriff of Ulster unty, Kingston, August 24, 1779, granting further respite to Joseph own, William McCrary and Jonah Wood to September 25, 1779. Copy. ½ p. F°. (86)

An appended note says: "A further Respite to 24th Octr 1779. Dated th Sept^r."

Governor.— Message of Governor Clinton to the legislature, Kingston, ptember 1, 1779, transmitting copies of letters from General Washington, remiah Wadsworth, Commissary-general, and the President of Congress, d also an act of Congress, and recommending legislative consideration of matters therein contained. Copy. ½ p. F°. (87)

*V: 259.

Senate.— Address of the Senate sitting at Kingston, August 31, 1779, in wer to Governor Clinton's speech at the opening of the session. Approve reasons for calling early session; regret the sufferings of their brethren in estchester County; pleased with the degree of security enjoyed by inhabits of the frontier and with the suppression of robberies and other atrocious enses; regret the necessity of employing harsher measures to enforce laws he northeastern counties; promise to consider measures for the appreciaı of the currency. Signed by Pierre Van Cortlandt, President. Copy. . F°. (88)

†V: 256, dated September 1, 1779.

Governor.— Message of Governor Clinton to the Senate, [Kingston, Sepber 3, 1779], acknowledging address in answer to his speech at the openof session; expresses reciprocal felicitations. Copy. 1 p. F°. (89)

V: 261. There is also a draft of this message in the Library's Emmet llection, no. 7050.

Governor.— Message of Governor Clinton to the legislature, Kingston, tember 4, 1779, recommending that means be devised for enabling citis to obtain a reasonable supply of salt. Copy. 1 p. F°. (90)

V: 264; †II: 78.

Assembly.— Address of the Assembly, September 4, 1779, in answer to Governor Clinton's speech at the opening of the session. Approve reasons for calling early session, regret that they cannot effectually protect citizens of Westchester County from ravages of the enemy; pleased that frontier settlements have been made secure and that robberies have become less frequent; declare purpose of maintaining rightful jurisdiction of the State in northeastern counties; importance of devising means to effect appreciation of the currency; necessity of wise and unanimous counsels in the present crisis. Signed by Evert Bancker, Speaker. Copy. 2 p. F°. (91)

*V: 262.

Governor.— Message of Governor Clinton to the Assembly, [September 6, 1779], acknowledging address in answer to his speech at the opening of the session. Pleased at the approbation of his reasons for calling an early session of the legislature; expresses confidence that the Assembly will adopt vigorous and effectual measures for the expulsion of the enemy. Copy. 1 p. F°. (92)

*V: 266.

Governor.— Message of Governor Clinton to the legislature, Kingston, September 8, 1779, submitting letter from James Wilkinson, clothier-general, with copy of letter from the Board of War, August 16th, to which he refers. Copy. ½ p. F°. (93)

Governor.— Message of Governor Clinton to the [Assembly], Kingston, September 8, 1779, recommending attention to the following resolutions of Congress: May 5, 1779, relative to accounts of late Commissary-general [Joseph] Trumbull; July 23, 1779, relative to preservation of property belonging to United States; June 22, 1779, recommending measures to prevent plundering of inhabitants of Long Island and other places in possession of the enemy; and of April 14, 1779. Copy. ½ p. F°. (94)

*V: 269; †II: 79.

Governor.— Proclamation by Governor Clinton, Kingston, September 24, 1779, directing that the inferior Courts of Common Pleas and Courts of General Sessions for Westchester County be held at the meeting-house in Upper Salem in the said county until further notice. Copy. Unsigned. 2 p. F°. Seal attached. (95)

Governor.— Message of Governor Clinton to the [Senate], Kingston, September 24, 1779, transmitting three resolutions of Congress, one of August 21, 1779, on the subject of an embargo; August 25, 1779, against restrictions on the inland trade between the States, and Sept. 10, 1779, for providing clothing for the troops; also a circular letter from Congress to its constituents, dated September 13, 1779. Copy. ⅓ p. F°. (96)

*V: 282; †II: 81.

Governor.— Message of Governor Clinton to the [Senate], Kingston, ptember 29, [1779], referring petitions of Nicholas Richter, John Ockerin, James Huey, and others, for consideration. Copy. 1/3 p. F°. (97)

Governor.— Message of Governor Clinton to the [Assembly], September , 1779, transmitting a communication from the Oyer and Terminer of lster County, recommending to mercy Thomas Cummings, convicted of gh treason, and delivered to the same court after sentence. Copy. 1/3 p. °. (98)

Governor.— Message of Governor Clinton to the [Assembly], Kingston, ctober 1, 1779, transmitting a petition of a number of the inhabitants of the istrict of Saratoga, Albany County, relative to the scarcity of salt. Copy. p. F°. (99)
*V: 300.

Governor.— Message of Governor Clinton to the [Senate], Kingston, ctober 2, 1779, submitting a letter from Royal Flint, Assistant Commissaryneral of Purchases, September 29, 1779, relative to the supply of flour. py. ½ p. F°. (100)

Governor.— Message of Governor Clinton to the [Assembly], Kingston, ctober 2, 1779, transmitting a return of the five Continental Battalions, and o a letter from Major-General Baron Steuben pointing out the necessity immediate and effectual measures for recruiting those regiments. Copy. p. F°. (101)
*V: 301.

Governor.— Message of Governor Clinton to the [Senate], Kingston, tober 2, 1779, transmitting an act of Congress, September 24, 1779, for justing controversies and settling disturbances in the northeastern district the State, and recommending action thereon. Copy. ½ p. F°. (102)
*V: 301.

Governor.— Message of Governor Clinton to the [Senate], Kingston, tober 4, 1779, transmitting for legislative consideration and action, a letter m the President of Congress, together with extracts of letters from Gen- l Washington. Copy. 1 p. F°. (103)
*V: 307.

Governor.— Proclamation by Governor Clinton, Kingston, October 4, 79, strictly forbidding all persons to plunder the inhabitants of Long nd or of any other place in the power or possession of the enemy, declaring t offenders will be punished to the utmost rigor of the law, and requesting il and military officers to take and secure all offenders and cause them to be t to the Board of Commissioners for detecting and defeating Conspiracies he State. D. S. 2 p. F°. Seal attached. (104)

Governor.— Message of Governor Clinton to the [Senate], October 4, 1779, transmitting a letter from Samuel Curson of September 10, 1779. Copy. ½ p. F°. (105)

Governor.— Message of Governor Clinton to the legislature, Kingston, October 9, 1779, informing that the Honorable John Jay has been appointed Minister from the United States to the Court of Madrid, and suggesting that a suitable person be elected to supply his place in Congress. Copy. ½ p. F°.
*V: 316; †II: 83. (106)

Governor.— Message of Governor Clinton to the [Senate], Kingston, October 13, 1779, submitting a letter from the General Assembly of Massachusetts, September 28, 1779, respecting a regulation for the limitation of prices of certain articles of merchandise and proposing a consultation for this purpose on the part of the States of New Hampshire, Rhode Island, Connecticut, Massachusetts Bay, and New York, to be held at Hartford, October 20, 1779. Copy. ½ p. F°. (107)
†II: 83.

Governor.— Message of Governor Clinton to the [Senate], Kingston, October 13, 1779, transmitting a letter from Jeremiah Wadsworth, Commissary-general of Purchases, October 3, 1779, relative to the scarcity of salt. Copy. ½ p. F°. (108)

Governor.— Message of Governor Clinton to the [Senate], Kingston, October 14, 1779, transmitting a resolution of Congress, September 30, 1779, directing the Continental agent at Boston to sell to New York State a certain quantity of rum and sugar at current wholesale prices, together with a letter from the President of Congress accompanying the same. Copy. ½ p. F°. (109)

Governor.— Message of Governor Clinton to the [Senate], Kingston, October 18, 1779, transmitting two acts of Congress of October 6 and 7, 1779, for supplying the Continental treasury by monthly assessments, together with a letter from the President of Congress. Copy. ½ p. F°. (110)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, November 1, 1779, proclaiming Thursday, December 9, 1779, as a day of public thanksgiving and prayer. D. S. 3 p. F°. Seal attached. (111)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, December 1, 1779, calling a meeting of the legislature at Albany on Tuesday, January 4, 1780, to enact laws for establishing and carrying into execution a general limitation of prices, as recommended by Congress. D. S. 1 p. F°. Seal attached. (112)

Governor.— Message of Governor Clinton to the [Senate], Albany, January 27, 1780, communicating resolutions of Congress and calling special attention to that of November 19, 1779, for the regulation of prices; recom-

ending that more adequate provision be made for the quota of New York ate in the Continental Army; that the militia law be continued, and that e utmost diligence be exercised in despatching business of the session on count of the military situation. Copy. 3 p. F°. (113)
† II: 87.

Governor.— List of papers accompanying Governor Clinton's message to e legislature, January 27, 1780. 1/3 p. F°. (114)

Governor.— Message of Governor Clinton to the [Assembly], Albany, nuary 27, 1780, transmitting papers showing distressed situation of the ny and recommending that measures be adopted immediately for its relief; o transmitting letter of Major-General [William] Heath of January 20, 80, and recommending that steps be taken to prevent the enemy from eiving aid from disaffected inhabitants of Westchester County in future. py. 1 p. F°. (115)
† II: 89.

Governor.— Message of Governor Clinton to the [Assembly], Albany, bruary 8, 1780, transmitting letter from Major-General [William] eath, January 25, 1780, and letters from Col. Udney Hay, Deputy artermaster-general, January 28 and February 3, 1780, respectively, ative to lack of provisions for the army. Copy. ½ p. F°. (116)
† II: 90.

Governor.— Message of Governor Clinton to the [Senate], Albany, Feb-ry 14, 1780, transmitting letter from Samuel Curson of December 6, 79, on same subject as that of September 10, 1779, which he transmitted tober 4, 1779. Copy. ½ p. F°. (117)

Governor.— Message of Governor Clinton to the [Assembly], Albany, bruary 14, 1780, transmitting an act of Congress, January 14, 1780, recom-nding that the several States make provision for conferring like privileges immunities on subjects of "his most Christian Majesty" as are granted to jects of the United States of America by articles of treaty of amity and mmerce subsisting between the two nations. Copy. ½ p. F°. (118)
II: 91.

Governor.— Message of Governor Clinton to the [Senate], Albany, Feb-ry 17, 1780, transmitting letter from Gouverneur Morris and Francis vis, late delegates to Congress, dated October 26, 1779, and a letter from nes Black relative to clothing for the five Continental Battalions; also nsmitting letter from General Assembly of Massachusetts Bay, January 780, respecting the repeal of inland embargo laws. Copy. ½ p. F°.
II: 91. (119)

Governor.— Message of Governor Clinton to the [Assembly], February 1780, transmitting a petition presented by Casper Stoudt for compensation services in manufacturing sulphur and copperas. Copy. 1/3 p. F°. (120)

Governor.— Message of Governor Clinton to the [Senate], Albany, Fe ruary 21, 1780, recommending that provision be made for the protection frontier settlements against possible incursions of the enemy in the sprin Copy. 1/3 p. F°. (12

†II: 92.

Governor.— Message of Governor Clinton to the [Assembly], Alban February 21, 1780, recommending certain claims growing out of mili service together with a letter from Col. Jacob Klock, October 20, 1779, to t consideration of the legislature. Copy. 1/3 p. F°. (12

†II: 92.

Governor.— Message of Governor Clinton to the [Assembly], Alban February 21, 1780, transmitting a letter from the delegates in Congress, wi accompanying papers. Copy. ½ p. F°. (12

Governor.— Message of Governor Clinton to the [Senate], Albany, Fe ruary 25, 1780, transmitting two acts of Congress of February 9, 1780, o making requisitions on the different States for their respective quotas of m for service of current year, the other engaging to make allowances to Stat that shall have had in service more than their just proportion of troops; t gether with the President's letter accompanying the acts. Copy. ½ p. F

†II: 93. (12

Governor.— Message of Governor Clinton to the [Senate], Alban March 3, 1780, transmitting return to troops forming quota of New Yo State in Continental army showing that proportion to be furnished by Ne York State for ensuing campaign is more than complete and suggesting th proper measures be devised for recruiting regiments for future service. Co ½ p. F°. (12

†II: 93.

Governor.— Message of Governor Clinton to the [Assembly], Alban March 7, 1780, transmitting letter received from Jacob Cuyler, Depu Commissary-general of Purchases, dated March 6, 1780, with a resoluti of Congress of January 1, 1780, relative to that department; also a lett from Dr. Malachi Treat of the General Hospital of the United States, dat February 29, 1780, representing distressed situation of wives of soldiers wh have served as nurses in the hospital, together with a petition of their hu bands on the subject. Copy. ½ p. F°. (12

†II: 94.

Governor.— Message of Governor Clinton to the [Assembly], Alban March 9, 1780, recommending that measures be taken for the payment money due to the militia of the State for their pay and subsistence while actual service. Copy. ½ p. F°. (12

†II: 96.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, March , 1780, recommending that Wednesday, April 26, 1780, be observed as a y of fasting, humiliation and prayer. D. S. 1½ p. F°. With seal attached. (128)

Governor.— Reprieve issued by Governor Clinton to the sheriff of utchess County, April 20, 1780, staying execution of Gulielmus More, nerwise called William More, and James Wilson, until May 19, 1780. py. 1 p. F°. (129)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, April , 1780, calling a meeting of the legislature at Kingston, May 9, 1780. S. 1 p. F°. With seal attached. (130)

Governor.— List of papers delivered with Governor Clinton's message of ay 25, 1780. Copy. 1 p. F°. (131)

Governor.— Message of Governor Clinton to the [Senate], Kingston, ay [25], 1780, transmitting papers; calling special attention to the new tem of finance recommended by Congress, and to the resolutions of Con- ess, February 25, 1780, relative to supplies for the army; informing of bredations of savages upon remote settlements and the necessity for ater protection; and calling attention to a letter from Congress, April 24, 80, which points out the importance of matters submitted to them, and ges a speedy and perfect compliance with requisitions. Copy. 1 p. F°. † II: 97. (132)

Governor.— Message of Governor Clinton to the [Senate], Kingston, ne 9, 1780, communicating letters from General Washington and from a mmittee of Congress at Headquarters, acts of Congress, May 19, 26, and 1780, and letters from James Duane and John Morin Scott, the said ers having come to hand during his late absence from Kingston. Copy. p. F°. (132a)
† II: 99.

Governor.— Message of Governor Clinton to the [Assembly], Kingston, ne 13, 1780, submitting a letter from James Black, Commissary of Cloth- for New York State, June 9, 1780, with his account; a petition from some the officers of the Fifth Continental Regiment of New York State, May 1780; and an account of the Governor and Company of Connecticut inst New York State for cannon furnished in 1776. Copy. 1/3 p. F°. † II: 100. (133)

Governor.— Message of Governor Clinton to the [Senate], Kingston, e 16, 1780, submitting a memorial of officers of New York State who are oners of war with the enemy, together with a letter from Colonel Allison tive to their situation; also a letter from Colonel Yates and seven other

field officers of the militia of Albany County, dated May 20, 1780, representing the state of the northern frontiers; and an act of Congress, June 1780, respecting extra supplies which may be furnished by any of the State Copy. 1/3 p. F°. (134)

†II: 101.

Governor.— Message of Governor Clinton to the legislature, Kingston June 29, 1780, transmitting circular letter from the President of Congress June 15, 1780; several acts of Congress of June 17, 21, and 23, 1780, and accompanying letters; a letter from General Washington, June 27, 1780; two circular letters from the Committee of Congress at Headquarters, June 19 and 23, 1780; and copies of his [Governor Clinton's] letters to the President of Congress and to the Committee at Headquarters, June 24 and 25 1780. Copy. ½ p. F°. (135)

†II: 101.

Governor.— Message of Governor Clinton to the [Senate], Kingston June 30, 1780, submitting, at the request of Major-General [Benedict] Arnold, the proceedings of the general court martial on his trial, together with his letter which accompanied the same. Copy. ½ p. F°. (136)

†II: 102.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, August 4, 1780, calling a meeting of the legislature at Poughkeepsie, Monday, September 4, 1780. D. S. 1 p. F°. (137)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, September 7, 1780, in which he calls attention to the necessity for an immediate election of delegates to Congress; recommends that provision be made for the protection of the frontier; submits letters from the Committee of Congress at Headquarters and the Commander-in-chief relative to the need of supplies for the army; suggests the advisability of accelerating the proposed confederation of States, and urges the importance of completing the Continental Battalions so as to establish a permanent force sufficient to bring the war to a speedy and successful issue. Draft. 4 p. F°. (138)

*VII: 159; †II: 105.

Governor.— Message of Governor Clinton to the [Senate], Poughkeepsie, September 8, 1780, submitting and recommending letters of Col. Udney Hay to the consideration of the legislature. Draft. 1 p. F°. (139)

†II: 108.

Senate.— Address of the Senate, Poughkeepsie, September 9, 1780, in answer to Governor Clinton's speech, expressing approval of measures for defense of frontier and promising coöperation in the several matters recommended to their consideration. Signed by Pierre Van Cortlandt, President. D. S. 3½ p. F°. (140)

Governor.— Message of Governor Clinton to the Senate, Poughkeepsie, eptember 11, 1780, acknowledging address in answer to his speech. Exresses satisfaction over the approbation of his conduct and concurrence in the nportance of matters recommended for consideration of the legislature. Copy. ½ p. F°. (141)

Assembly.— Address of the Assembly, Poughkeepsie, September 9, 1780, n answer to Governor Clinton's speech at the opening of the session. Exressing approbation of his conduct and promising coöperation in matters ubmitted to their consideration. Signed by Evert Bancker, Speaker. D. S. p. F°. (142)

Governor.— Message of Governor Clinton to the Assembly, Poughkeepe, September 11, 1780, acknowledging address in answer to his speech. leased with approbation of his conduct in measures taken for the defense f the State; assured that unanimity and despatch equal to public emergencies ill attend their deliberations. Copy. ²/₃ p. F°. (143)

Governor.— Message of Governor Clinton to the legislature, Poughepsie, September 13, 1780, transmitting acts of Congress of August 12 and 4, 1780, recommending that the States make compensation to their officers nd soldiers for depreciation of their pay and making further provision for ficers and soldiers of the Continental Army, together with a letter from ree gentlemen who were deputed by the officers of the line of the State to present to the legislature the distressed situation of the troops. Copy. ²/₃ p. °. (144)

†II: 110.

Governor.— Message of Governor Clinton to the legislature, Poughepsie, September 13, 1780, transmitting a proclamation of Gov. Jonathan rumbull of Connecticut, founded on an act of the governor and council of at State, repealing their inland embargo laws; together with a letter from overnor Trumbull accompanying the proclamation. Copy. ¹/₃ p. F°. †II: 110. (145)

Governor.— Message of Governor Clinton to the legislature, Poughepsie, September 13, 1780, transmitting petition of Mary Tenis and others lative to their distressed situation. Copy. ½ p. F°. (146)

Governor.— Message of Governor Clinton to the legislature, Poughepsie, September 14, 1780, submitting an act of Congress, August 26, 1780, commending that the several States take the most speedy and effectual easures for bringing the new bills of credit into circulation and making prosion for payment of public debts, and for other purposes; together with the esident's letter of September 3, 1780, accompanying the same. Copy. p. F°. (147)

†II: 111.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, September 20, 1780, assigning lines in Westchester and Orange counties to the southward of which no neat cattle of beef shall be driven or removed unless such neat cattle or beef shall be intended for use of troops in service of United States or New York State, or being draft cattle shall be actually employed in public service. D. S. $1^1/_3$ p. F°. With seal attached. (148)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, September 25, 1780, transmitting letter from Gov. Jonathan Trumbull of Connecticut, September 19, 1780, with an extract from the proceedings of the Council of Safety of that State, which requires immediate attention. Copy. $^1/_3$ p. F°. (149)

†II: 111.

Governor.— Message of Governor Clinton to the [Assembly], Poughkeepsie, September 27, 1780, transmitting a letter of September 14, 1780, from John Carter, who has been appointed to procure provisions for the French fleet and army at Newport, accompanying two letters of September 10, 1780, one from De Tailè, Intendant of the fleet and the other from De Grandchain, Intendant of the army. Copy. $^1/_3$ p. F°. (150)

†II: 111.

Governor.— Message of Governor Clinton to the [Senate], Poughkeepsie, September 30, 1780, transmitting a letter from Robert R. Livingston, September 19, 1780, relative to his continuance as a delegate in Congress. Copy. $^1/_3$ p. F°. (151)

Governor.— Message of Governor Clinton to the legislature, Poughkeepsie, October 3, 1780, transmitting a circular letter from the President of Congress, September 10, 1780, with accompanying papers respecting the confederation of the United States. Copy. $^1/_3$ p. F°. (152)

Governor.— Message of Governor Clinton to the [Senate], Poughkeepsie, October 7, 1780, transmitting list of persons at Peterborough of the German Flatts District in Tryon County who, having been reduced to extreme indigence by the operations of war and the ravages of the enemy, require assistance from the State; and recommending that provision be made for payment of expense of erecting a blockhouse at Palmerton on the northern frontier. Copy. 2 p. F°. (153)

†II: 112.

Governor.— Message of Governor Clinton to the [Senate], Poughkeepsie, October 7, 1780, transmitting a letter of September 23, 1780, from Major Tallmadge of Colonel Sheldon's Light Dragoons stationed near the lines in Westchester County relative to certain abuses committed there. Copy. $^1/_3$ p. F°. (154)

†II: 113.

Governor.—Proclamation by Governor Clinton, Poughkeepsie, October 1780, recommending that Thursday, November 2, 1780, be observed as a Day of Prayer and Thanksgiving to Almighty God for the recent and markable Deliverance wrought on Behalf of the United States in general d of this State in particular by the Discovery of the treasonable Conspiracy r Betraying the Fortifications in the Highlands into the Hands of the nemy." D. S. 1 p. F°. Seal attached. (155)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, Novem- r 15, 1780, recommending that Thursday, December 7, 1780, be set apart a day of public thanksgiving and prayer. D. S. 1 p. F°. Seal attached. (156)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, Novem- r 28, 1780, calling a meeting of the legislature at Albany on Tuesday, nuary 2, 1780. D. S. 1 p. Seal attached. (157)

Governor.—Message of Governor Clinton to the legislature, Albany, nuary 2, 1781, submitting Acts of Congress and other papers; calling atten- n to the necessity of protecting frontier settlements and the need of cloth- g for the troops; and suggesting the enactment of amendments to law for ising troops to complete quota of New York State for service in army of nited States during the war. D. S. 1¼ p. F°. (158)

†II: 114.

Governor.— List of papers delivered with Governor Clinton's message to e legislature, January 2, 1781. 1 p. F°. (159)

Governor.— Message of Governor Clinton to the [Senate], Albany, Feb- ary 5, 1781, communicating a letter from Congress, January 7, 1781, with estimate of sums required from the several States for immediate payment the army, and an act of Congress, January 8, 1781, requiring certain sums specie from the different States for the use of officers in captivity in New rk and on Long Island, together with the President's letter accompanying e same; also transmitting an act of Congress of January 5, 1781, relative treatment of prisoners. Copy. 1 p. F°. (160)

†II: 116.

Governor.— Message of Governor Clinton to the legislature, Albany, bruary 5, 1781, transmitting a letter from Thomas Chittenden, Novem- 22, 1780, in which he demands that the legislature relinquish jurisdiction er that part of the State known as "The New Hampshire Grants," together h a copy of his letter to Congress. July 21, 1780. Copy. 1 p. F°. (161)

Governor.— Message of Governor Clinton to the legislature, Albany, bruary 6, 1781, submitting letter from Col. Jacob Klock and others, dated bruary 5, 1781, in behalf of inhabitants of Tryon County and recommend- that provision be made for their defense. Copy. 1 p. F°. (162)

†II: 116.

Governor.—Message of Governor Clinton to the legislature, Albany, February 10, 1781, submitting copy of letter from Col. [Ephraim] Blaine, Commissary-general of Purchases, to Congress, January 17, 1781, together with the President's letter covering an order for their transmission; emphasizing the absolute necessity of supplying the troops with provisions. Copy. $^{2}/_{3}$ p. F°. (163)

† II: 116.

Governor.— Message of Governor Clinton to the [Assembly], Albany, February 10, 1781, recommending for consideration the petition of Catharine Snell, Gertrude Garter and Anna Lower. Copy. $^{1}/_{3}$ p. F°. (164)

Governor.— Warrant of impress issued by Governor Clinton at Albany, February 10, 1781, to Udney Hay, Agent of the State of New York, authorizing him to impress such quantities of wheat and flour in the several counties and districts of the State as shall be equivalent to their respective deficiencies of those articles under acts of legislature. Copy. 2 p. F°. (165)

Governor.— Message of Governor Clinton to the [Senate], Albany, February 22, 1781, submitting the following papers: letter from Col. William Malcolm, February 3, 1781, requesting an advancement of pay for Brigade of Levies lately under his command; petition from inhabitants of Kingsland and German Flatts Districts in Tryon County, February 8, 1781, requesting that two companies be raised for defense of frontier; a petition from Col. Peter Bellinger and Capt. Henry Herder for appointment of William Petri as a surgeon for Forts Herkimer and Dayton; petition from William Moulton and others for a grant of unpatented lands on borders of Lake Champlain; and a petition from Freeholders and Inhabitants of Half Moon District for ascertaining boundary line between that district and the Schenectady Church lands. Copy. 1 p. F°. (166)

† II: 117.

Governor.— Message of Governor Clinton to the [Assembly], Albany, February 23, 1781, publicly declaring that he considers a compliance with requisitions contained in concurrent resolutions of Senate and Assembly of February 21 and 22, 1781, would be repugnant to law and inconsistent with his duty. Explanation of his position in the matter of granting warrants of impress. Copy. 1¼ p. F°. (167)

† II: 119.

Governor.— Message of Governor Clinton to the [Assembly], Albany, February 23, 1781, transmitting two acts of Congress of February 3 and 7, 1781, which recommend that the several States vest Congress with the power of levying duties on the importation of foreign merchandise and on all prizes and prize goods for the purpose of raising a fund for discharge of debts contracted on the faith of the United States for support of the war. Copy. $^{2}/_{3}$ p. F°. (168)

† II: 120. Printed under date of September 24.

Governor.— Message of Governor Clinton to the [Assembly], Albany, February 26, 1781, transmitting a letter from General Washington, February 19, 1781, in reply to a letter from Clinton to him on behalf of the legislature, dated February 14, 1781. Copy. ¼ p. F°. (169)

Governor.— Message of Governor Clinton to the [Assembly], Albany, February 27, 1781, announcing his intention to prorogue the legislature if the Assembly should concur in resolutions adopted by the Senate in relation to the New Hampshire grants. Copy. 2 p. F°. (170)

There is no number 171 allotted in the numeration.

Governor.— Message of Governor Clinton to the [Assembly], Albany, February 28, 1781, communicating General Washington's letter of February 24, 1781, in answer to his letter of February 20, 1781, written at request of the legislature, as signified by their Resolutions of same date. Copy. ¼ p. F°. (172)

†II: 123.

Governor.— Message of Governor Clinton to the legislature, Albany, February 28, 1781, submitting letter from Brig.-Gen. James Clinton representing the dangerous and critical situation of his department for want of provisions. Copy. ½ p. F°. (173)

Governor.— Message by Governor Clinton to the [Assembly], Albany, March 8, 1781, submitting letter of March 3, 1781, from Morgan Lewis and Udney Hay, late Deputy Quartermasters-general, and Jacob Cuyler, late Deputy Commissary-general to army of United States, and recommending that some mode be adopted to obviate difficulties mentioned in this letter and to render a settlement of their accounts more practicable. Copy. ½ p. F°. †II: 124. (174)

Governor.— Message of Governor Clinton to the [Assembly], Albany, March 12, 1781, transmitting a letter from Joseph Ketchum and Joseph Rogues de Pionnerie respecting exportation of a quantity of flour purchased by them under a contract with the Commissary-general of the fleet of his Most Christian Majesty at Newport, Rhode Island. Copy. ½ p. F°. (175)

Governor.— Warrant of impress issued by Governor Clinton at Albany, March 13, 1781, to Udney Hay, Agent of the State of New York, authorizing him to impress wheat and flour within the State in accordance with act of Legislature, March 10, 1781. Copy. 1½ p. F°. (176)

Governor.— Message of Governor Clinton to the [Assembly], Albany, March 19, 1781, communicating an act of Congress, March 1, 1781, announcing that the Articles of Confederation and Perpetual Union between the thirteen United States have been formally and finally ratified by all the States. D. S. ½ p. F°. (177)

*VI: 707; †II: 707.

Governor.— Message of Governor Clinton to the [Assembly], Albany, March 19, 1781, transmitting a letter of March 11, 1781, from the New York delegates in Congress, in answer to a letter to Congress, written by the Governor on behalf of the legislature. Copy. ½ p. F°. (178)

Governor.— Message of Governor Clinton to the [Assembly], Albany, March 21, 1781, transmitting a letter of March 9, 1781, from Gov. Jonathan Trumbull of Connecticut together with papers to which it refers. Copy. 1/3 p. F°. (179)

Governor.— Message of Governor Clinton to the legislature, Albany, March 29, 1781, transmitting letter from Brig.-Gen. James Clinton, March 29, 1781, which he recommends to attention of the legislature. Copy. 1/3 p. F°. (180)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, April 15, 1781, recommending that Thursday, May 3, 1781, be observed as a day of humiliation, fasting and prayer. D. S. 1 1/3 p. F°. Seal missing. (181)

Governor.— Proclamation by Governor Clinton, Poughkeepsie, May 8, 1781, assigning the town of Poughkeepsie as the place of meeting of the legislature on the first Wednesday in June. D. S. 2/3 p. F°. Seal attached. (182)

Governor.— Message of Governor Clinton to the [Assembly], Poughkeepsie, June 17, 1781, transmitting acts of Congress and other public papers received during the recess of the legislature; and promising to submit returns of New York regiments serving in army of United States as well as of levies raised for immediate defense of the State. Copy. ½ p. F°. (183)

†II: 132. Printed under date of June 16.

Governor.— List of papers laid before the legislature by Governor Clinton with his message of June 17, 1781. ½ p. F°. (184)

Governor.— Message of Governor Clinton to the [Assembly], Poughkeepsie, June 18, 1781, communicating two letters from "his Excellency the Commander in Chief," June 16, 1781, pointing out the necessity of immediately completing the New York regiments in service of United States together with another letter from his Excellency of same date recommending that measures be taken for payment of troops of New York line. Copy. 1/3 p. F°. (185)

†II: 133.

Governor.— Message of Governor Clinton to the [Assembly], Poughkeepsie, June 19, 1781, transmitting papers received from Col. [Udney] Hay relative to his office of State agent and settlement of public accounts. Copy. 1/3 p. F°. (186)

Governor.— Message of Governor Clinton to the [Senate], Poughkeep-
e, June 25, 1781, transmitting papers received from Col. [Udney] Hay
inting out difficulties of his office as State agent, returns of provisions and
rage procured under his direction to May 1, 1781, together with accounts
rrent of specific supplies between United States and New York State.
opy. 1/3 p. F°. (187)
†II: 133.

Governor.— Message of Governor Clinton to the legislature, Poughkeep-
e, June 25, 1781, transmitting letters from General Washington, one of
une 21, 1781, and the other of June 25, 1781, of such importance as to merit
e earliest attention of the legislature. Copy. 1/3 p. F°. (188)

Governor.— Message of Governor Clinton to the [Assembly], Pough-
epsie, June 26, 1781, transmitting returns alluded to in his message of June
7, 1781, and a resolve of Congress, June 13, 1781, recommending that the
veral States make provision for settling accounts for depreciation of pay of
ficers of Hospital and Medical Departments and for paying ballances that
ay be found due to them. Copy. ½ p. F°. (189)
†II: 134.

Governor.— Proclamation by Governor Clinton, Poughkeepsie, Septem-
r 6, 1781, calling a meeting of the legislature at Poughkeepsie on Monday,
ctober 1, 1781. D. S. F°. Seal attached. (190)

NEWS OF THE MONTH

GIFTS

DURING the month of June, 1927, there were received as gifts 2,282 volumes, 12,190 pamphlets, 18 maps and 10 prints. Some interesting and important items were the following:

Mr. Moses Taylor presented the Library with 198 volumes and 71 pamphlets, consisting of fiction, history, philosophy, bound periodicals such as "Sun and Shade," 1888–1895, "Photographic Times" and "American Photographer," 1888–1895, and others. From Dr. M. D. Benton came a collection comprising 47 volumes and 706 pamphlets. Mr. J. F. McCarthy gave 56 volumes, 56 pamphlets, 18 periodicals and 51 photographs, and from D. Welleck came a collection including 990 periodicals and some vocal and instrumental music.

Mrs. C. B. Tyler gave the Library two volumes, "John Hill's British Herbal, London, 1756," and "New Illustrations of the Sexual System of Carolus Von Linnaeus . . . by R. J. Thornton, London, 1807," these books having once been the property of her grandfather, Henry Tilden, brother of Samuel J. Tilden. From Trinity Church Corporation came four volumes, "A History of Trinity Church in the City of New York, compiled and edited by Morgan Dix, vols. 1–4, New York, 1898–1906." Mr. J. Pierpont Morgan gave his privately printed copy of "A Book of Old Testament Illustrations of the Middle of the 13th century, sent by Cardinal Bernard Maciejowski to Shah Abbas the Great, King of Persia, now in the Pierpont Morgan Library at New York, described by Sydney C. Cockerell, with an introduction by Montague Rhodes James and Notes on the Armour by Charles J. Ffoulkes," Cambridge, 1927. From the Hispanic Society of America came a collection of 41 volumes and 42 pamphlets, chiefly publications of the Society. Harry Glemby presented the Library with no. 102 of 420 copies printed in Hebrew of "The Book of Esther, illustrated by Arthur Szyk, Paris, 1926," and from Kikusaburo Fukui, Tokyo, Japan, came a volume entitled "Japanese Ceramic Art and National Characteristics, Tokyo, 1926."

From the Diet of Finland came three volumes, "Finlands Författningssamling 1925–1926," and "Redogörelse . . . 1926," and from the Mayor of Bologna, Italy, came 26 volumes and 6 pamphlets, documents of Bologna. The Governor of Cirenaica gave a copy of "I Meharisti ed i Mehara by Massimo Adolfo Vitale, Bengasi, 1927."

From the Drushtvo Svetoga Save, Beograd, Jugoslavia, came Publications . 28–35, 1922–1927 and a copy of "Pripovetke iz stare srbiye, by Zar. R. opvich." The Government Printer of Papua, sent 7 volumes and 1 pamet, Government documents. From the Landwirtschaftskammer of the vince of Schleswig-Holstein came 8 volumes and 5 pamphlets, documents he Province.

Prints were received from Mrs. M. J. Coulter (3), from L. R. Pissarro Paris (40 bookplates) and from C. Jac Young (7).

Mrs. John De Hart presented genealogical material of the De Hart nily (manuscripts, charts, etc.), and William F. Endress gave "Endress Hof, A Genealogical History of the Endress Family," compiled by himf and published at New York in 1926.

From Miss Margaret Harris came a collection of 49 photographs, autophed and unautographed, of theatrical celebrities, including Nikita Baf, Tamava Daykarhanova, Hugo Riesenfeld, etc.

ADDITIONS AND USE OF THE LIBRARY IN JUNE, 1927

DURING the month of June, 1927, there were received at the Library 24,162 volumes and 13,518 pamphlets. (These include the additions both Reference and Circulation Departments.) The total number of ders recorded in the Central Building was 120,487. Visitors to the build- numbered about 270,609.

RESIGNATION OF MR. PEARSON

BECAUSE of increasing pressure of other literary work and commitments, Mr. Edmund Pearson has felt obliged to withdraw from his long association with the Library as Editor of Publications. For several years he has been apportioning his time among various interests — the Library, his duties as Literary Editor of "The Outlook," contributions to other publications, and the writing of characteristic books of unusual interest. The Library relinquishes Mr. Pearson most regretfully and with all cordial wishes for the future.

CONDITIONAL GIFTS

THE following is an excerpt from a memorandum received by the Director from the retiring Editor of Publications:

> "I have given to the Library some twenty or thirty books, and have told Miss Leavitt that I expect no special recognition of the gift. I only stipulated that they should be catalogued on gold-edged catalogue cards, have a special bookplate with my picture and name; be known henceforth as the Edmund Lester Pearson Collection; kept in a room by themselves; and issued to readers by somebody in full evening dress."

The Library accepts gratefully the books offered by Mr. Pearson, though it begs for some abatement of the rigor of the conditions attached to the gift.

In order to miss no didactic opportunity, it may be explained, somewhat gratuitously, that the satire in this communication is by no means extravagant. Libraries and museums know, probably more keenly than other public institutions, the anguish that can be caused by impossible conditions attached to desirable gifts. Fortunately, most donors are quick to understand, when it is explained to them, that a library cannot be administered with satisfaction to the public as a collection of small rooms containing each a separate collection of books. The difficulties attending such segregation are set forth in a leaflet printed by the Library in 1926 — "Requests for Special Reading Rooms." A gift of books, free from conditions as to placing or administration, will be far more useful to the Library's patrons; and, because of its greater usefulness, a better memorial of the giver. The Library is, of course, glad to designate by suitable book-plates all books received as gifts, and to observe any necessary or desirable restrictions as to the use of such material.

NEW PERIODICALS

ıerican labor weekly. New York. Veekly.
Published by the International Labor Alliance.

ıerican Poultry Association news. Fort Vayne, Ind. Quarterly.
Published by the American Poultry Association.

ıerican Poultry School. Quisenberry ay. Kansas City, Mo. Monthly.

ıaa Movado Hamburg. — Esperanto-Komitato. Publikajoj. Hamburg, Germany. Irregular.

lin, Germany. — Statistisches Amt. Monatsbericht der Statistischen Amts der tadt Berlin. Berlin. Monthly.

liografia romana. Roma, Italy. Semi-nnual.

negie Institute. Bulletin. Pittsburgh, a. Monthly from September to June.

istentum und Wissenschaft. Leipzig. Ionthly.
ublished by the Leipziger Kartell theologischer Studenten-Verein und des Leuchtenburgverband.

ıtsch-amerikanischer Wirtschaftsverand. Zeitschrift. Berlin. Monthly.

nomiste égyptien. Alexandria, Egypt. Veekly.

ıcational record supplement. Washingn, D. C. Quarterly.

richno-zavods'ka promyslovist' Ukrayy. Kharkov, Ukraine, S.S.S.R.
ublished by Ukraine. — Tzentral'ne statistichne upravlinnya.

mers' and peasants' international correondent. Canton, China. Monthly.
ublished by the Central Committee of the Kuomintang.

rida library bulletin. Orlando, Fla. regular.
rgan of the Florida Library Association.

journal. New York. Monthly.
ublished by the National Association of the Fur Industry.

.m. Kaunas, Lithuania. Semi-monthly.

ssen. — Universität. Schriften der hesschen Hochschulen. Giessen, Germany. uarterly.

rnale di bibliografia tecnica internaznale. Bologna, Italy. Monthly.

ersack. Fort Ticonderoga, N. Y. Semi-nual.
ublished by the Fort Ticonderoga Museum.

rew theologian. Chicago, Ill. Monthly.
ublished by the Hebrew Theological College. — Student Organization.

Al-Jamieh al-Arabiyyah. Jerusalem, Palestine. Weekly.

Juedisches Familienblatt. Bratislava, Czechoslovakia. Weekly.

Koenigsberg, Prussia. — Amt für Wirtschaft und Statistik. Statistik und Wirtschaft. Koenigsberg Pr., Germany. Monthly.

Latin notes. New York. Monthly from October to May.
Published by the Service Bureau for Classical Teachers.

Legionnaire. New York. Monthly.
Published by the American Legion, New York Dept. S. Rankin Drew Post No. 340.

Magdeburg, Germany. — Statistisches Amt. Monatsberichte. Magdeburg, Germany. Monthly.

Natural history magazine. London. Quarterly.
Published by the British Museum (Natural History).

New York City. — Department of Education. List of members of Board of Education, local school boards, officials, employees and supervising and teaching staffs. New York. Semi-annual.

New York radio program weekly. New York. Weekly.

New York State College of Forestry at Syracuse University. News letter. Syracuse, N. Y. Three times in college year.

Omaha's own magazine. Omaha, Neb. Monthly.

Opera nazionale dopolavoro. Bollettino mensile. Roma, Italy. Monthly.

Organ der Varietéwelt. Berlin. Weekly.
Published by the Internationaler Varieté-Theater Direktoren-Verband E. V.

Pod znamenem marksizma. Moscow, S.S.S.R. Monthly.

Probuzhdeniye. Detroit, Mich. Monthly.
Published by the Russkiye progressivnyye organizatzii Soyedinionnykh Shtatov i Kanady.

Revue de la prévoyance et de la mutualité. Paris. Quarterly.

Société française des constructions Babcock et Wilcox. Bulletin technique. Paris. Irregular.

United States Lawn Tennis Association. Official bulletin. New York. Monthly.

Washington University. Publications. St. Louis, Mo. Three times a month from February to June.

STARCHES

1811–1925

A LIST OF REFERENCES DEALING WITH THE CHEMISTRY AND TECHNOLOGY OF STARCHES, DEXTRINS AND AMYLASES

COMPILED BY

ROBERT P. WALTON, Science and Technology Division

Order of Arrangement

STARCHES AND DEXTRINS
- Chemical Section
  - Acid Hydrolysis
  - Enzymic Hydrolysis
  - Molecular Constitution
  - Components of Starch Granule
  - Crystalline Dextrins formed by Bacterial Degradation of Starch
  - General Chemical Characteristics
    - Reactions with Iodine
    - Reactions with Formaldehyde
    - Reactions with Bases
    - Reactions with Oxidizing Agents
  - Ethers and Esters
  - Hydrolysis by Salts
  - Soluble and Modified Starches
  - Preservation of Starch Solutions
- Physical Section
  - General Physical Characteristics
    - Viscosity and Plasticity
    - Gelatinization
    - Coagulation and Retrogradation
  - Microscopic Observations
- Analytical Section
  - Methods of Determination
    - Polarimetric Methods
    - Saccharimetric Methods
- Analytical Section, *continued.*
    - Gravimetric Methods
    - Iodine Methods
    - Specific Gravity Methods
    - Comparison of Methods
  - Detection, Differentiation and Identification
  - Determinations in Various Materials
  - Analytical Examination
- Technological Section
  - Industrial Sources
  - Manufacture of Starch
  - Manufacture and Preparation of Dextrin
  - Starch Factory Waste Waters
  - Industrial Applications of Starch and Dextrin

AMYLASES
- Purification
- General Characteristics
- Activation and Inactivation by Salts, Acids, etc.
- Optimum and Inactivating Temperatures
- Action of Sunlight, Ultra-Violet Rays and Roentgen Rays
- Adsorption of Amylases
- Determination of Activity
  - Determination of Amyloclastic Activity
  - Determination of Saccharogenic Activity
- Mould, Fungus, Yeast and Bacterial Amylases
- Sources and Occurrence
- Industrial Applications

PART VI

STARCHES AND DEXTRINS, *continued*

TECHNOLOGICAL SECTION

INDUSTRIAL SOURCES

1990. Shier, John. On the quantity of starch yielded by different plants. (Pharmaceutical journal and transactions, London, 1847–48, v. 7, p. 590.) **VTA**

Determines starch content of a number of plants in British Guiana.

Abstract in *Jour. prakt. Chem.*, 1849, Bd. 46, p. 123.

1991. Krocker. Ueber den Stärkegehalt in Getreide und Kartoffeln. (Dingler's polytechnisches Journal, 1849, Bd. 112, p. 143–144.) **3–VA**

1992. Walpers, G. Ueber Arrow root. (Botanische Zeitung, Berlin, 1851, Jahrg. 9, p. 329–340.) **QEA**

1993. Luna, Ramon. Sur la nature chimique de la chufa. (Souchet comestible.) (Annales de chimie et de physique, Paris, 1852, série 3, tome 35, p. 194–205.) **PAA**

Starch is determined by treating with dilute boiling H_2SO_4 and estimating the resulting glucose by polarization; allowances are made for the crystallizable sugars originally present. The rush nut contains 29% starch, the properties of which closely resemble those of potato starch.

arches and Dextrins, continued.

dustrial Sources, continued.

94. **Starch** from horse chestnut and ar-
w root. (Scientific American, New York,
52–53, v. 8, p. 105.) †† VA

95. **Basset.** Note au sujet de la fécule de
tillaire, comme pouvant remplacer en par-
la pomme de terre. (Académie des sci-
ces, Comptes rendus, Paris, 1853, tome
, p. 299–302.) * EO

Discusses culture and starch of the Fritil-
ia imperialis, which is indigenous to
ance. Suggests use of the plant as a
mmercial source of starch.

Abstract in *Polytechnisches Notisblatt,* Frankfurt,
4, Jahrg. 9, p. 144.

96. **Comar,** Ferdinand. Note sur la fé-
le et l'alcool de colchique. (Journal de
armacie et de chimie, Paris, 1856, tome
. p. 47–49.) WTA

Obtains 21% starch from the bulbs of
lchique.

Abstract in *Chem. Centr.,* 1856, Jahrg. 1, p. 143.

97. **Callias,** H. Procédé économique
xtraction de la fécule des marrons d'Inde;
plication de ce produit à l'industrie et à
imentation. (Académie des sciences,
mptes rendus, Paris, 1857, tome 44, p.
.) * EO

98. —— Sur l'extraction de la fécule de
rrons d'Inde. (Société d'encouragement
ur l'industrie nationale, Paris, 1862, an-
61, p. 65–77.) VA

Condensed in *Wag. Jahr.,* 1862, Jahrg. 8, p. 398–

99. **Dugald-Campell.** Sur la quantité
midon contenue dans le riz. (Société
ncouragement pour l'industrie nationale,
lletin, Paris, 1862, année 61, p. 569–571.)
VA

nvestigates several commercial rice
rches; finds an average of 13% water.

0. **Philippe,** J. Giordano de. Fécule de
cratium. (Génie industriel, Paris, 1863,
ie 25, p. 306.) VA

bstract in *Polytechnisches Central Blatt,* Leipzig,
, N. F., Jahrg. 17, p. 1519; *Chem. Centr.,* 1864,
59.

1. **Nobbe,** Friedrich. Über die Zu- und
hahmen des Stärkegehalts der Kartoffel-
lle. (Landwirtschaftlichen Versuchs-
tionen, Chemnitz, 1865, Bd. 7, p. 451–
)

vailable in Library of the Department
Agriculture.

2. **Zu-** und Abnahme des Stärkege-
es in den Kartoffeln. (Abgekürzt.)
(Dingler's polytechnisches Journal, Augsburg, 1867, Bd. 185, p. 482–483.) 3-VA

At the time of harvesting the potatoes contain 10% starch. Determines content during storage.

Abstract in *Bull. soc. chim. Paris,* 1868, nouv. série, tome 9, semestre 1, p. 252.

2003. **Starch,** arrowroot, sago and tapioca. (Scientific American, New York, 1867, new series, v. 17, p. 133.) †† VA

2004. **Goppelsroeder,** Friedrich. Über das in Basel verkäufliche Arrow-Root. (Auszug.) (Chemisches Central-Blatt, Leipzig, 1869, p. 239–240.) PKA

2005. **Raab,** L. Ueber den Stärkemehlgehalt verschiedener Kartoffelsorten. (Neues Jahrbuch für Pharmacie, Speyer, 1872, Bd. 37, p. 204–206.)

Available in Library of Columbia College of Pharmacy.

In 61 varieties the starch content was found to range from 9% to 26%.

Abstract in *Chem. Centr.,* 1872, Jahrg. 43, p. 424.

2006. **Simmonds,** P. L. The edible starches of commerce, their production and consumption. (Pharmaceutical journal and transactions, London, 1872–73, series 3, v. 3, p. 833–837, 853–855.)

Available in Library of the New York Academy of Medicine.

A full description of starches from various parts of the world; production statistics are given.

Also in *American chemist,* 1873–74, v. 4, p. 93–99, *PKA; Wag. Jahr.,* 1873, Jahrg. 19, p. 537–546.

2007. **Greenish,** Thomas. Note on scammony. (Pharmaceutical journal and transactions, London, 1874–75, series 3, v. 5, p. 263–264.) WTA

Describes the starch of the scammony root.

2008. **Sources** of edible starch. (Scientific American, New York, 1874, new series, v. 30, p. 401.) †† VA

2009. **Boehnke-Reich,** Heinrich. Das Stärkemehl und die Mehl liefernden Pflanzen der neuen Welt. (Archiv der Pharmacie, Halle, 1875, Bd. 206, p. 418–431.)

Available in Library of Columbia College of Pharmacy.

2010. **Pott,** E. Stärkemehlgehalt verschiedener grosser Kartoffelknollen. (Dingler's polytechnisches Journal, Augsburg, 1875, Bd. 217, p. 518.) 3-VA

Finds a decrease in the size of potatoes is accompanied by a decrease in starch content.

Duplicate abstracts in *Chem. Centr.,* 1875, p. 715; *Wag. Jahr.,* 1875, Jahrg. 21, p. 769.

Starches and Dextrins, continued.

Industrial Sources, continued.

2011. Hannay, J. Ueber den Einfluss der Temperatur auf das Wachsthum der Kartoffeln. (Dingler's polytechnisches Journal, 1877, Augsburg, Bd. 223, p. 548–549.) **3–VA**

2012. Ueber die Verwendung des Mais zur Herstellung von Stärke, Zucker, Spiritus und Bier. (Dingler's polytechnisches Journal, Augsburg, 1880, Bd. 238, p. 488–493.) **3–VA**

Discussion.
Abstract in *Jour. chem. soc.*, 1881, v. 40, p. 330.

2013. Maercker, M. Ueber den Einfluss der Düngung auf das Auftreten der Kartoffelkrankheit und den Stärkegehalt der Kartoffeln. (Central-Blatt für Agrikulturchemie, Biedermann's, Leipzig, 1880, Bd. 9, p. 501–504.)

Available in Library of the Department of Agriculture.

2014. Reinke, J., and G. Berthold. Verwerthung nassfauler Kartoffeln. (Dingler's polytechnisches Journal, Augsburg, 1880, Bd. 235, p. 167.) **3–VA**
Abstract in *Wag. Jahr.*, 1880, Jahrg. 26, p. 535.

2015. Kramer, Ernst. Ueber den Stärkeverlust keimender Kartoffelknollen. (Auszug.) (Central-Blatt für Agrikulturchemie, Biedermann's, Leipzig, 1881, Jahrg. 10, p. 717.)

Available in Library of the Department of Agriculture.
Abstract in *Jour. chem. soc.*, 1882, v. 42, p. 242.

2016. Kartoffelkultur und Erträge. (Central-Blatt für Agrikulturchemie, Biedermann's, Leipzig, 1883, Jahrg. 12, p. 828–839.)

Available in Library of the Department of Agriculture.

Discusses extensive experiments in which the percent starch yield of different potato varieties is determined.
Abstract in *Jour. soc. chem. ind.*, 1884, v. 3, p. 419.

2017. Ueber die Herstellung von Kartoffelstärke. (Dingler's polytechnisches Journal, Stuttgart, 1883, Bd. 248, p. 381–382.) **3–VA**

Discusses the starch value of several varieties of potatoes. Potassium salts as fertilizers increase the yield of potatoes but decrease the starch yield.
Abstract in *Jour. soc. chem. ind.*, 1883, v. 2, p. 419.

2018. Guradze, S. Anwendung künstlicher Düngemittel für die Kartoffelkultur. (Central-Blatt für Agrikulturchemie, Biedermann's, Leipzig, 1883, Jahrg. 12, p. 377–379.)

Available in Library of the Department of Agriculture.

Tabulates starch yield.
Abstract in *Jour. soc. chem. ind.*, 1885, v. 4, p. 230.

2019. Heine, F. Vergleichende Anbau-Versuche mit 89 verschiedenen Kartoffeln-Sorten im Jahre 1882. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 181–193, 255–262.)

Available in Library of the Patent Office.

Investigates starch content of 89 potato varieties.

2020. Maercker, M. Was kann der kartoffelbautreibende Landwirth dazu thun, um möglichst stärkemehlreiche Kartoffeln zu produciren? (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 203–204, 268–270, 391–393.)

Available in Library of the Patent Office.
Abstract in *Wag. Jahr.*, 1883, Jahrg. 29, p. 669.

2021. Maercker, M., and others. Ein auffallender Einfluss der Dungüng auf die Zusammensetzung der Kartoffeln. (Auszug.) Von M. Märcker, Grager und Vibrans. (Central-Blatt für Agrikulturchemie, Biedermann's, Leipzig, 1883, Jahrg. 12, p. 365–366.)

Available in Library of the Department of Agriculture.

Artificial manure increased the yield of potatoes but decreased the starch content as much as 6%.
Also abstracted in *Jour. soc. chem. ind.*, 1885, v. 4, p. 231.

2022. Nitykowski. Vergleichende Kartoffel-Anbau-Versuche. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 129–134.)

Available in Library of the Patent Office.

By Reimann's method determines starch content of a large number of potato varieties.
Abstract in *Wag. Jahr.*, 1883, Jahrg. 29, p. 668.

2023. Schwarz, M. Gersten-Analysen. (Amerikanische Bierbrauer, New York, 1883, Jahrg. 16, p. 65–68, 99–101, 129–132.)

Available in Library of the Brewers' Academy.

2024. Vibrans. Ein auffallender Einfluss der Düngung auf die Zusammensetzung der Kartoffeln. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 160–161.)

Available in Library of the Patent Office.
Abstract in *Wag. Jahr.*, 1883, Jahrg. 29, p. 668.

ches and Dextrins, continued.
ıstrial Sources, continued.

. **Kette-Jassen,** M. Influence of krug-
ɔn the percentage of starch in potatoes.
stract.) (Society of Chemical Industry,
nal, London, 1884, v. 3, p. 575.) **VOA**

rugite, a potash salt composed chiefly of
hate of potash and gypsum, causes a
inution of starch when used as a ma-
.

so abstracted in *Central-Blatt für Agrikultur-*
ie, Biedermann's, Leipzig, 1884, Jahrg. 13, p.
356.

. **Fittbogen,** J. Ueber die Aufbewah-
; angefrorener Kartoffeln. (Dingler's
technisches Journal, Stuttgart, 1885,
255, p. 45–46.) **3–VA**

rost-damaged potatoes stored in silos
v a rapid loss in food value and starch
ent.

ɔstract in *Jour. soc. chem. ind.,* 1885, v. 4, p.

. **Heine,** F. Bericht über vergleich-
Anbau-Versuche mit verschiedenen
offel-Sorten im Jahre 1884. (Zeitschrift
Spiritusindustrie, Berlin, 1885, N. F.,
g. 8, p. 194–198, 273–277.)

vailable in Library of the Patent Office.

. **Lintner,** Carl J. Mitteilungen aus
Versuchs- und Staatsbrauerei Weihen-
nan. (Central-Blatt für Agrikultur-
ıie, Biedermann's, Leipzig, 1885, Jahrg.
407–408.)

ailable in Library of the Department
griculture.

termines percent starch in several bar-

. **Saare,** Oscar. Zum Kauf und Ver-
ler Kartoffeln nach Probe und Angabe
Kartoffelwaage. (Zeitschrift für Spiri-
dustrie, Berlin, 1885, N. F., Jahrg. 8, p.
55.)

ailable in Library of the Patent Office.
tract in *Wag. Jahr.,* 1885, Jahrg. 31, p. 648.

. **Maercker,** M. Ist es zweckmässig,
offeln mit hohem Stärkegehalt, wenn
niedrigem Ertrag pro Morgen, oder
ffeln mit niedrigerem Stärkegehalt,
hohem Ertrag pro Morgen zu bauen.
chrift für Spiritusindustrie, Berlin,
N. F., Jahrg. 9, p. 204–205.)

ilable in Library of the Patent Office.
ract in *Wag. Jahr.,* 1886, Jahrg. 32, p. 608.

. **Portele,** K. Beiträge zur Kenntniss
Zusammensetzung des Maiskornes.
(Landwirtschaftlichen Versuchs-Stationen, Berlin, 1886, Bd. 32, p. 241–262.)

Available in Library of the Department of Agriculture.

Abstract in *Wag. Jahr.,* 1885, Jahrg. 31, p. 654–656.

2032. **Hanamann,** J. Stärke- und Stickstoffbestimmungen böhmischer und mährischer Gersten aus den Jahren 1884, 1885 und 1886. (Zeitschrift für das gesammte Brauwesen, München and Leipzig, 1887, Jahrg. 10, p. 203–204.)

Available in Library of the Chemists' Club.

2033. **Nobbe,** Friedrich. Die "wilde Kartoffel" von Paraguay. (Landwirtschaftlichen Versuchs-Stationen, Berlin, 1887, Bd. 33, p. 447–454.)

Available in Library of the Department of Agriculture.

2034. **Vibrans.** Vergleichender Versuchsanbau von Kartoffeln 1887. (Zeitschrift für Spiritusindustrie, Berlin, 1888, N. F., Jahrg. 11, p. 80.)

Available in Library of the Patent Office.

Percent starch in several potato varieties.

Abstract in *Jour. soc. chem. ind.,* 1889, v. 8, p. 204.

2035. **Girard,** Aimé. Recherches sur la culture de la pomme de terre industrielle. (Académie des sciences, Comptes rendus, Paris, 1889, tome 108, p. 412–415.) ***EO**

Percent starch in a number of potato varieties.

Abstract in *Jour. soc. chem. ind.,* 1889, v. 8, p. 472.

2036. —— Recherches sur la culture de la pomme de terre industrielle. Développement progressif de la plante. (Académie des sciences, Comptes rendus, Paris, 1889, tome 108, p. 602–604.) ***EO**

Includes record of starch content of the potato at six different periods.

Abstract in *Jour. soc. chem. ind.,* 1889, v. 8, p. 625.

2037. **Kartoffelanbauversuche.** (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1890, Jahrg. 36, p. 802.) **VOA**

2038. **O'Sullivan,** James. The influence of germination upon the constituents of barley. (Abstract.) (Society of Chemical Industry, London, Journal, 1890, v. 9, p. 535–536.) **VOA**

Includes observations of the fate of starch during germination.

Starches and Dextrins, continued.

Industrial Sources, continued.

2039. Petermann, A. Enquête sur la richesse en fécule des diverses variétés de pommes de terre. (Station agronomique de l'état à Gembloux, Bulletin, 1890, no. 46, 27 p.; 1891, no. 49, 25 p.; 1892, no. 51, 32 p.)

Available in Library of the Department of Agriculture.

Abstracts in *Jour. chem. soc.,* 1893, v. 2, p. 230; *Chem. Centr.,* 1890, Bd. 1, p. 774; *Chem. Centr.,* 1891, Bd. 2, p. 675.

2040. Paulsen, W. Neue Kartoffelsorten und deren Erträge 1890. (Zeitschrift für Spiritusindustrie, Berlin, 1891, N. F., Jahrg. 14, p. 45.)

Available in Library of the Patent Office.

Gives starch content of 46 varieties.

2041. Dubosc, A. Sago oder Palmstärke. (Auszug.) (Dingler's polytechnisches Journal, Stuttgart, 1892, Bd. 285, p. 213.) **3–VA**

Gives uses, characteristics and economic importance.

Also abstracted in *Jour. soc. chem. ind.,* 1893, v. 12, p. 280.

2042. Duell, G. Über die wasserlöslichen Kohlehydrate des Malzes und der Gerste. (Chemiker-Zeitung, Cöthen, 1893, Jahrg. 17, p. 67–68, 100.) †† **VOA**

Evidence that dextrin is not in the alcoholic or aqueous extract of cured malt.

Abstract in *Chem. Centr.,* 1893, Bd. 1, p. 407; *Wag. Jahr.,* 1893, Jahrg. 39, p. 891.

2043. Eckenbrecher, C. von. Kartoffelanbauversuche. (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1893, Jahrg. 39, p. 777.) **VOA**

2044. Ewell, E. E., and H. W. Wiley. Some products of cassava. (American chemical journal, Baltimore, 1893, v. 15, p. 285–289.) **PKA**

Analyses include percentage starch present. Discuss commercial possibilities of the plant.

Abstract in *Jour. soc. chem. ind.,* 1893, v. 12, p. 536.

2045. Tortelli, M. Microscopic and chemical examination of durra (Sorghym cernuum). (Abstract.) (Society of Chemical Industry, Journal, London, 1893, v. 12, p. 612.) **VOA**

The durra is a cereal rich in carbohydrates which is cultivated on a large scale in Egypt, equatorial Africa, India and China.

2046. Schulte, J. Effect of chlorides on vegetation and on the amount of starch in potatoes. (Abstract.) (Chemical Society of London, Journal, 1895, v. 68, part 2, p. 61.) **PKA**

2047. Bersch, Wilhelm. Über die Entstehung von Zucker und Stärke in ruhenden Kartoffeln. (Österreichisch-ungarische Zeitschrift für Zuckerindustrie und Landwirtschaft, Wien, 1896, Jahrg. 25, p. 766–793.)

Available in Library of the Department of Agriculture.

Abstract in *Chem. Centr.,* 1896, Bd. 2, p. 1121, *Jour. chem. soc.,* 1898, v. 74, part 2, p. 41.

2048. Paulsen, W. The preservation of potatoes. (Abstract.) (Society of Chemical Industry, Journal, London, 1896, v. 15, p. 665.) **VOA**

Determines speed of sugar formation from starch and speed of the reverse reaction as affected by temperature changes during storage.

2049. Saare, Oscar. Wird Stärkemehl aus Rosskastanien im Grossen hergestellt. (Zeitschrift für Spiritusindustrie, Berlin, 1896, N. F., Jahrg. 19, p. 105.)

Available in Library of the Department of Agriculture.

2050. Ausbeute der Stärkefabriken aus den diesjährigen Kartoffeln. (Zeitschrift für Spiritusindustrie, Berlin, 1896, N. F., Jahrg. 19, p. 385.)

Available in Library of the Patent Office.

Yields obtained were 12–15%. Urges that prices be fixed per unit of starch.

Abstract in *Jour. soc. chem. ind.,* 1896, v. 15, p. 913.

2051. Paulsen, W. Verschiedenes über Kartoffelsorten. (Zeitschrift für Spiritusindustrie, Berlin, 1897, N. F., Jahrg. 20, p. 55–56.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.,* 1897, Jahrg. 43, p. 779.

2052. Kramm, L. Fabrication de l'amidon de maïsen Russie. (Extrait.) (Association des chimistes de sucrerie et de distillerie, Bulletin, Paris, 1898–99, tome 16, p. 372.) **VOA**

States that maize is replacing rice as raw material in starch manufacture. Gives reasons why maize is preferred.

2053. Matthews, Chas. G., and Frank E. Lott. The grinding of malt, and some considerations connected therewith. (Federa-

ches and Dextrins, continued.

ustrial Sources, continued.

Institute of Brewers, Journal, London,), v. 5, p. 514–531.) **VTRA**

malt stored for 3 years showed a de- se in maltose and dextrin. A finely ınd meal results in a higher yield of ch transformation products.

bstract in *Jour. soc. chem. ind.*, 1900, v. 19, p.

. **Eignet** sich längere Zeit gelagerter s zur Stärkefabrikation? (Zeitschrift für itusindustrie, Berlin, 1899, N. F., Jahrg.). 37.)

vailable in Library of the Patent Office.

ld maize, because it is drier, gives a ter yield of starch, but some claim that storage involves a loss of starch and the separation of gluten becomes more icult.

bstract in *Jour. soc. chem. ind.*, 1899, v. 18, p.

. **Balland.** Sur le voandzou. (Acadé- des sciences, Comptes rendus, Paris, , tome 132, p. 1061–1062.) ***EO**

otes the presence of 58% amylaceous ma- l in the grains of the voandzou, a le- inous plant grown in Africa.

. **Eckenbrecher,** C. von, and Kitt- z. Kartoffelanbau. (Auszug.) (Jahres- cht der chemischen Technologie, Wag- , Berlin, 1902, Jahrg. 48, Abt. 2, p. 292.) **VOA**

Leuscher, E. Über die Gewinnung Arrowroot. (Zeitschrift für öffentliche nie, Plauen, 1902, Jahrg. 8, p. 23–25.) **VOA**

scusses cultivation of the plant and de- of starch preparation as carried on in ica and Bermuda.

stract in *Jour. soc. chem. ind.*, 1902, v. 21, p.

Archbold, George. Cassava as a etitor of maize in the production of and allied products. (Society of nical Industry, Journal, London, 1903, p. 63–66.) **VOA**

cusses the occurrence, possible yield per and microscopic appearance of cassava . Details a method for manufacture of and glucose.

tract in *Chem. Centr.*, 1903, Bd. 1, p. 740.

Buttenshaw, W. R. West Indian es. (Abstract.) (Society of Chemical try, Journal, London, 1904, v. 23, p. **VOA**

2060. Eckenbrecher, C. von. Bericht über die Anbauversuche der deutschen Kartoffel-Kultur-Station im Jahre 1903. (Zeitschrift für Spiritusindustrie, Berlin, 1904, Ergänzungsheft.) **†† VTZA**

Abstract in *Wag. Jahr.*, 1904, Jahrg. 50, Abt. 2, p. 220.

2061. Starch prepared from the bread-fruit tree in the Seychelles. (Great Britain.—Imperial Institute, Bulletin, London, 1904, v. 2, p. 28–29.) **CXA**

Characteristics and analyses of two samples.

Abstract in *Jour. soc. chem. ind.*, 1904, v. 23, p. 553.

2062. Eckenbrecher, C. von. Anbauversuche der deutschen Kartoffelkultur-Station. (Zeitschrift für Spiritusindustrie, Berlin, 1905, N. F., Jahrg. 28, Ergänzungsheft.) **†† VTZA**

Bericht über die Anbauversuche der deutschen Kartoffel-Kultur-Station im Jahre 1904.

2063. Gross, Emanuel. Ein sprechendes Beispiel für die Stärkevererbung bei der Kartoffel. (Auszug.) (Chemisches Central-Blatt, Berlin, 1905, Bd. 2, p. 339.) **PKA**

2064. Parow, Edmund. Fünfjährige Versuche über die Stärkeausbeute bei verschiedenen Kartoffelarten. (Zeitschrift für Spiritusindustrie, Berlin, 1905, N. F., Jahrg. 28, p. 65–68.) **†† VTZA**

Abstract in *Chem. Centr.*, 1905, Bd. 1, p. 1195.

2065. Eckenbrecher, C. von. Kartoffelanbauversuche. (Auszug.) (Jahresbericht der chemischen Technologie, Wagner's, Leipzig, 1906, Jahrg. 52, Abt. 2, p. 222.) **VOA**

2066. Krzymowski, Richard. Rauhschaligkeit und Stärkegehalt der Kartoffeln. (Journal für Landwirtschaft, Berlin, 1906, Jahrg. 54, p. 57–64.) **VPA**

Abstract in *Chem. Centr.*, 1906, Bd. 1, p. 1043.

2067. Eckenbrecher, C. von. Bericht über die Anbauversuche der deutschen Kartoffel-Kultur-Station im Jahre 1906. (Zeitschrift für Spiritusindustrie, Berlin, 1907, Ergänzungsheft.) **†† VTZA**

2068. Leberle. Über die Ermittlung des Stärkewertes der Gerste durch Polarisation. (Zeitschrift für das gesammte Brauwesen, 1907, Jahrg. 30, p. 301–302.) **† VTRA**

By Lintner's polarization method determines starch content of 50 barleys. Results confirm those of Wenglein.

Abstract in *Chem. Centr.*, 1907, Bd. 2, p. 273.

Starches and Dextrins, continued.

Industrial Sources, continued.

2069. Moore, Charles C. Cassava: its content of hydrocyanic acid and starch, and other properties. (United States. — Bureau of Chemistry, Washington, 1907, Bulletin no. 106.) **VPH**

Some samples of the sweet variety showed .002% HCN and some of the bitter variety showed .03%, although there was no definite distinction between the two. In the dry substance, the starch content ranged from 40% to 82%. Markets for cassava meal and the use of cassava for manufacturing purposes are discussed.

Abstract in *Jour. soc. chem. ind.*, 1907, v. 26, p. 1154; *Chem. abst.*, 1908, v. 2, p. 154.

2070. Parow, Edmund, and F. Neumann. Versuche über die Stärkeausbeute bei verschiedenen Kartoffelarten der Ernte des Jahres 1905. (Zeitschrift für Spiritusindustrie, Berlin, 1907, Jahrg. 30, p. 45–46, 57–58.)

Abstract in *Wag. Jahr.*, 1907, Jahrg. 53, Abt. 2, p. 214–216.

2071. Bacon, Raymond F. Starch production in the Philippine Islands. (Philippine journal of science, Manila, 1908, v. 3, A, p. 93–98.) **OA**

Believes "that with the introduction of the best methods of handling cassava, it will furnish the cheapest source of starch in the world and also compete on even grounds with molasses for the manufacture of alcohol." At present there are no reliable figures on the amount that can be raised commercially per acre but ten tons have been produced. Plates are given of starch from cassava and a number of other native plants. — *Chem. abst.*

2072. Eckenbrecher, C. von. Bericht über die Anbauversuche der deutschen Kartoffel-Kultur-Station im Jahre 1907. (Zeitschrift für Spiritusindustrie, Berlin, 1908, Ergänzungsheft.) **†† VTZA**

Abstract in *Wag. Jahr.*, 1908, Jahrg. 54, Abt. 2, p. 188.

2073. Luehder, E. Die Atmung des Malzes und die hierbei entstehenden Stärkeverluste. (Zeitschrift für Spiritusindustrie, Berlin, 1908, Jahrg. 31, p. 401–403.) **†† VTZA**

After 18 days germination barley samples show a loss of about 31% starch.

Abstract in *Jour. soc. chem. ind.*, 1908, v. 27, p. 993; *Chem. abst.*, 1908, v. 2, p. 3256; *Chem. Zentr.*, 1908, Bd. 2, p. 1389; *Bull. assoc. chimistes*, 1908–09, tome 26, p. 1099–1100.

2074. Parow, Edmund, and F. Neumann. Versuche über Stärkeausbeute bei verschiedenen Kartoffelarten der Ernte des Jahres 1907. (Zeitschrift für Spiritusindustrie, Berlin, 1908, Jahrg. 31, p. 76–79.) **†† VTZA**

Abstract in *Wag. Jahr.*, 1908, Jahrg. 54, Abt. 2, p. 194.

2075. Reichard, Albert. Stärke- und Extraktgehalt der Gerste in ihren Beziehungen zum Malzextrakt. (Zeitschrift für das gesammte Brauwesen, München, 1908, Jahrg. 31, p. 345–348, 357–360.) **† VTRA**

A comparison between the results obtained in calculating the eventual yield of malt from (1) the starch of barley as determined by Lintner's polarimetric method; (2) from the extract of barley determined according to the old method, the method of Graf and the author's new formalin method.

Abstract in *Chem. Zentr.*, 1908, Bd. 2, p. 1067.

2076. Wenglein, O. Die Beziehungen des Stärkegehaltes der Gerste zu deren Proteingehalt und Korngrösse. (Zeitschrift für das gesammte Brauwesen, München, 1908, Jahrg. 31, p. 257–261.) **† VTRA**

Abstract in *Jour. soc. chem. ind.*, 1908, v. 27, p. 761; *Chem. abst.*, 1909, v. 3, p. 939; *Chem. Zentr.*, 1908, Bd. 2, p. 263.

2077. Wichmann. La teneur de l'orge en amidon et ses relations avec la teneur en protein et avec la grosseur des graines. (Extrait.) (Association des chimistes de sucrerie et de distillerie, Paris, Bulletin, 1908–09, tome 26, p. 1098–1099.) **VOA**

2078. Potato culture. (Abstract.) (Chemical abstracts, Easton, 1909, v. 3, p. 1321.) **PKA**

For 100 varieties the starch content varies from 13.2 to 22.5%.

2079. Cramm, L. E. von. The use of Russian corn for the manufacture of starch, glucose, etc. (Abstract.) (International Congress of Applied Chemistry, 7th, London, 1909, [Proceedings,] section 6a, p. 18–20.) **PKR**

Suggests that the large quantities of maize, cultivated in southern Russia and the Caucasus, be converted into starch products for English consumption.

Abstract in *Jour. soc. chem. ind.*, 1909, v. 28, p. 805.

2080. Decrock, E. Sur quelques fécules des colonies et en particulier de l'Indo-Chine. (Musée colonial de Marseille, Annales, 1909, série 2, v. 7, p. 325–359.)

Available in Library of the Department of Agriculture.

rches and Dextrins, continued.

ustrial Sources, continued.

1. **Cassava** starch from Fiji. (Great ain. — Imperial Institute, Bulletin, Lon-, 1909, v. 7, p. 271–272.) **CXA**

nalysis and possible uses.

bstract in *Jour. soc. chem. ind.*, 1909, v. 28, p. .

2. **Lange,** H. Die Verarbeitung von nioka auf Spiritus und Hefe. (Zeitschrift Spiritusindustrie, Berlin, 1909, Jahrg. p. 200–201.) †† **VTZA**

bstract in *Jour. soc. chem. ind.*, 1909, v. 28, p. *Chem. Zentr.*, 1909, Bd. 2, p. 388; *Bull. assoc. istes*, 1909–10, tome 27, p. 247–248.

3. **Moore,** Charles C. Cassava. A raw erial for manufacture into starch, glu- and industrial alcohol. (Abstract.) (In- ational Congress of Applied Chemistry, London, 1909, [Proceedings,] section b. 20.) **PKR**

. **Parow,** Edmund. Stärkeausbeute- luche an verschiedenen Kartoffelsorten. tschrift für Spiritusindustrie, Berlin, , Jahrg. 32, p. 470–471, 483–485.) †† **VTZA**

. **Parow,** Edmund, and O. Matzdorff. suche über Stärkeausbeute bei ver- edenen Kartoffelarten der Ernte 1908. tschrift für Spiritusindustrie, Berlin, , Jahrg. 32, p. 72–73.) †† **VTZA**

ne "Johanna" variety gave the highest l and best quality of starch.

stract in *Wag. Jahr.*, 1909, Jahrg. 55, Abt. 2, 4.

. **Planchon,** Louis, and Armand Juil- Étude de quelques fécules coloniales. sée colonial de Marseille, Annales, série 2, v. 7, p. 411–556.)

railable in Library of the Department griculture.

Wolfe, H., and C. Wilde. Über Ei- s, Stärke und Extraktgehalt der Gers- neuriger Ernte und ihre Beziehungen lander. (Zeitschrift für das gesammte wesen, München, 1909, Jahrg. 32, p. † **VTRA**

e starch content, as determined by ner's method, in 137 barleys was found crease with increasing content of al- n. Barleys with smaller berries ed less starch than the larger-berried les.

Parow, Edmund. Welche Kartoffel- n werden hauptsächlich in den Stärke-fabriken verarbeitet und wie wird über die Verarbeitung der Sorten geurteilt? (Zeitschrift für Spiritusindustrie, Berlin, 1910, N. F., Jahrg. 33, p. 447.) †† **VTZA**

Abstract in *Wag. Jahr.*, 1910, Jahrg. 56, Abt. 2, p. 257.

2089. **Sury,** Joseph von. Über Bananenmehl. (Chemiker-Zeitung, Cöthen, 1910, Jahrg. 34, p. 463.) **VOA**

Banana meal from the green fruit contains nearly 80% of starch while the ripe fruit contains only ½%.

2090. **Eckenbrecher,** C. von. Bericht über die Anbauversuche der deutschen Kartoffelkulturstation im Jahre 1910. (Zeitschrift für Spiritusindustrie, Berlin, 1911, Ergänzungsheft, p. 3–60.) †† **VTZA**

Gives results of a large number of starch determinations and also effect of nitrogen fertilizers on starch yield.

2091. **Hoffmann,** J. F. Kartoffelanalysen der Ernten 1909 und 1910. (Zeitschrift für Spiritusindustrie, Berlin, 1911, Ergänzungsheft, p. 61–64.) †† **VTZA**

Gives results of a large number of starch determinations. Notes that nitrate fertilizers increase protein content and decrease starch content.

Abstract in *Chem. Zentr.*, 1911, Bd. 1, p. 1238.

2092. **Keitt,** T. E. The formation of sugars and starch in the sweet potato. (South Carolina. — Agricultural Experiment Station, Bulletin, Anderson, 1911, no. 156, 14 p.) **VPG**

2093. **Kreibich.** Potato experiments. (Chemical abstracts, Easton, 1911, v. 5, p. 2345.) **PKA**

Gives starch yield for 9 varieties of potatoes.

2094. **Woy,** Rudolf. Zollamtliche Beurteilung von Roggen- und Weizenkleie auf Grund des Reinstärkegehaltes. (Zeitschrift für öffentliche Chemie, Plauen, 1911, Jahrg. 17, p. 101–109.) **VOA**

Recommends determination of starch content for tariff purposes. Results obtained by polarimetric method of Ewers are given for a number of brans.

Abstract in *Chem. Zentr.*, 1911, Bd. 1, p. 1447.

2095. **Yoshimura,** K. Beiträge zur Kenntnis der Banane. (Zeitschrift für Untersuchung der Nahrungs- und Genussmittel, Berlin, 1911, Bd. 21, p. 406–411.) **VTA**

Starch is converted into sucrose, which undergoes a process of gradual inversion.

Abstract in *Chem. abst.*, 1911, v. 5, p. 2275; *Jour. chem. soc.*, 1911, v. 100, part 2, p. 526.

Starches and Dextrins, continued.

Industrial Sources, continued.

2096. Eckenbrecher, C. von. Bericht über die Anbauversuche der deutschen Kartoffelkulturstation im Jahre 1911. (Zeitschrift für Spiritusindustrie, Berlin, 1912, Ergänzungsheft 1, p. 3–60.) †† **VTZA**

Results are about the same as in 1909 and 1910.

Abstract in *Chem. Zentr.*, 1912, Bd. 1, p. 1733.

2097. Tapioca (cassava) flour and starch. (Great Britain. — Imperial Institute, Bulletin, London, 1912, v. 10, p. 562–565.) **CXA**

Gives analysis and general description of several samples.

Abstract in *Chem. abst.*, 1913, v. 7, p. 2074.

2098. Hébert, Alexandre. Sur la composition de divers produits, graines ou tubercules amylaces ou feculents de l'Afrique occidentale française. (International Congress of Applied Chemistry, 8th, Washington and New York, 1912, Original communications, v. 18, p. 143–146.) **PKR**

The 5 agricultural products examined show a starch content of 28–76%.

2099. Hoffmann, Wilhelm. Welche Erfahrungen sind bisher bei der Düngung von Kartoffeln mit Kalisalzen in Bezug auf Wachstrum und Stärkegehalt gemacht worden. (Zeitschrift für Spiritusindustrie, Berlin, 1912, Jahrg. 35, p. 241–242.) †† **VTZA**

A summary of the most important work done on this subject. The conclusion is reached that owing to the extreme sensitiveness of potatoes to chlorides the 40% potash fertilizer of the market is best suited to German conditions. — *Chem. abst.*

Abstract in *Wag. Jahr.*, 1912, Jahrg. 58, Abt. 2, p. 338.

2100. Teller, George L. The carbohydrates of wheat and wheat products and changes in same during development of the grain. (International Congress of Applied Chemistry, 8th, Washington and New York, Original communications, 1912, v. 13, p. 273–278.) **PKR**

Includes determinations of dextrose, dextrins and starch at 13 different periods of 3 days each.

Abstract in *Chem. Zentr.*, 1912, v. 6, p. 3294.

2101. Eckenbrecher, C. von. Bericht über die Anbauversuche der deutschen Kartoffelkulturstation im Jahre 1912. (Zeitschrift für Spiritusindustrie, Berlin, 1913, Ergänzungsheft, p. 3–60.) †† **VTZA**

A number of results are given showing influence of N fertilizers on starch content of potatoes.

Abstract in *Chem. Zentr.*, 1913, Bd. 1, p. 1302.

2102. Hoffmann, J. F., and Fr. Preckel. Kartoffeluntersuchungen der Ernte 1912. (Zeitschrift für Spiritusindustrie, Berlin, 1913, Ergänzungsheft, p. 61–63.) †† **VTZA**

The highest starch content noted was 21.66%.

2103. Pieraerts, J. La fécule de Dolichos multiflorus. (Association des chimistes, Bulletin, Paris, 1913–14, tome 31, p. 230–234.) **VOA**

Includes microscopic examination and chemical analysis.

Abstract in *Chem. abst.*, 1914, v. 8, p. 2824; *Chem. Zentr.*, 1914, Bd. 1, p. 269.

2104. Barrett, O. W. The sugar palm. (Sugar, Chicago, 1914, v. 16, no. 7, p. 65–67.) †† **VTL**

The male palms are considered as a possible commercial source of starch.

2105. Eckenbrecher, C. von, and Hoffmann. Über Kalidüngungsversuche zur Feststellung des Einflusses verschieden starker Kalidüngungen auf den Ernteertrag, den Stärkegehalt und den Eiweissgehalt der Kartoffeln. (Zeitschrift für Spiritusindustrie, Berlin, 1914, Ergänzungsheft, p. 60–66.) †† **VTZA**

Abstract in *Chem. Zentr.*, 1914, Bd. 1, p. 1970.

2106. La **"Tacca** umbrarum." (Extract.) (Giornale di farmacia, di chimica e di scienze affini, Torino, 1914, v. 63, p. 116.)

Available in Library of the Chemists' Club.

The tubers of this plant (which is indigenous to Madagascar) give a yield of approximately 30% dry starch when treated by commercial processes, as compared with a yield of 20–22% obtained from manioc. The native method of extracting starch from these tubers consists in a crude mechanical separation followed by washing (in order to remove toxic and bitter principles) and sun drying. — *Chem. abst.*

2107. Hines, C. W. Sugar-palm sap. (Sugar, Chicago, 1914, v. 16, no. 7, p. 63–65.) †† **VTL**

The male tree yields large quantities of starch. The method for recovery is given.

Abstract in *Chem. abst.*, 1914, v. 8, p. 3728.

ches and Dextrins, continued.
strial Sources, continued.

. **Hoffmann,** J. F., and Fr. Preckel. cht über die Untersuchung von Kar-eln der Ernte 1913. (Zeitschrift für Spir-ndustrie, Berlin, 1914, Ergänzungsheft, 7–72.) †† **VTZA**

he lowest starch value in the fresh po-es was 10.60% and the highest 22.10%.

. **Waterman,** H. I. Omzettingen van zetmeel in aardappelen tijdens het dro- (Chemisch weekblad, Amsterdam, , jaarg. 11, p. 332–337.) † **3–VOA**

ostract in *Chem. Zentr.*, 1914, Bd. 1, p. 2018; . *abst.*, 1916, v. 10, p. 131.

. **Huizinga,** Alida, and H. J. F. de s. Omzettingen van het zetmeel in appelen tijdens het drogen. (Chemisch kblad, Amsterdam, 1915, jaarg. 12, p. 272.) † **3–VOA**

ne experiments of Waterman were re-ed, but his results could not be dupli-d. — *Chem. abst.*

Waterman, H. I. Omzettingen in appelen tijdens het drogen. 2. (Chem-weekblad, Amsterdam, 1915, jaarg. 12, –49.) † **3–VOA**

hen dried at a temperature that is not igh, a part of the potato starch is trans-ed into sucrose. The sucrose content , 45 and 55°, respectively, was 3.3, 2.17 .6%. Temperature had no influence on otal or sol. N content. — *Chem. abst.*

—— Omzettingen in aardappelen ns het drogen. 3. (Chemisch week- Amsterdam, 1915, jaarg. 12, p. 924– † **3–VOA**

nfirms earlier observations that more se is formed from starch at lower than gher temperatures.

Francis, C. K., and O. C. Smith. starches of the grain sorghums. (Okla-. — Agricultural Experiment Station, vater, Bulletin 110, 1916, 38 p.) **VPG**

tain sorghums seem to be especially ole as raw materials for the manufac-of high grade starch. Detailed descrip-and photomicrographs of the various nes are given. Gelatinization tempera-are determined by means of a thermo

tract in *Chem. abst.*, 1917, v. 11, p. 545.

Baker, Julian L., and H. F. E. Hul-Analytical examination of acorns and horse-chestnuts. (Analyst, London, 1917, v. 42, p. 351–355.) **PKA**

Deals with nature of the starches.

Abstract in *Jour. soc. chem. ind.*, 1917, v. 36, p. 1285.

2115. Eaton, B. J. Banana flour and other flours from tropical starchy products. (Federated Malay States, Agricultural bulletin, 1917–18, v. 6, p. 430–436.)

Available in Library of the Department of Agriculture.

Gives analysis of banana flour.

Abstract in *Jour. soc. chem. ind.*, 1919, v. 38, p. 89A.

2116. Goris, A. De l'utilisation du marron d'Inde. (Académie des sciences, Comptes rendus, Paris, 1917, tome 165, p. 345–348.) * **EO**

Notes that the cotyledon contains 20 to 30% starch.

2117. Tapioca starch from Rhodesia, (Great Britain. — Imperial Institute. Bulletin, London, 1917, v. 15, p. 180–182.) **CXA**

The separated inner portion of the sample of tapioca starch gave the following results from a chemical examination: moisture 14.4, proteins 0.1, fats 0.15, starch 82.8, ash 0.2%, no fiber and no matter soluble in water. — *Chem. abst.*

2118. Langworthy, C. F. Potatoes, sweet potatoes, and other starchy roots as food. (United States. — Department of Agriculture, Bulletin, Washington, 1917, Bulletin 468, 28 p.) **VPZ**

2119. Briant, L., and H. Harman. Sudan durra as a brewing material. (Institutes of Brewing, Journal, London, 1918, v. 24, p. 209–214.) **VTRA**

This material, also known as kaffir corn or broom corn, was investigated as to the possibilities in its employment as malt, roasted grain, flaked grain and glucose. Analytical figures show 72% carbohydrates. The whole of the starch appeared to be rendered available by flaking.

Abstract in *Jour. soc. chem. ind.*, 1918, v. 37, p. 523a; *Chem. abst.*, 1918, v. 12, p. 2039.

2120. Colin, H. Utilisation de la racine d'Anthriscus sylvestris. (Association des chimistes, Bulletin, Paris, 1918, tome 35, p. 106–107.) **VOA**

The plant is common to the wooded areas of France and contains 14.5% starch which can be extracted by the usual methods.

Abstract in *Chem. abst.*, 1919, v. 13, p. 2297.

2121. Ducomet, H., and A. Ch. Girard. Agricultural utilization of frozen and rotten

Starches and Dextrins, continued.

Industrial Sources, continued.

potatoes. (Abstract.) (Chemical abstracts, Easton, 1918, v. 12, p. 1708.) **PKA**

Give method for recovery of starch from decayed potatoes.

Also abstracted in *Jour. soc. chem. ind.*, 1917, v. 36, p. 1283.

2122. Eckenbrecher, C. von. Ergebnisse der von der D.K.K. St. im Jahre 1917 mit verschiedenen Kartoffelsorten ausgeführten Anbauversuche. (Zeitschrift für Spiritusindustrie, Berlin, 1918, Ergänzungsheft.) **†† VTZA**

2123. Edson, H. A. Effect of frost and decay on the starch in potatoes. (Journal of industrial and engineering chemistry, Easton, 1918, v. 10, p. 725–726.) **† VOA**

Frosted and decayed potatoes have been found to be entirely capable of producing acceptable and frequently normal yields of clean, white starch of good quality.

Abstract in *Chem. Zentr.*, 1919, Bd. 2, p. 600; *Chimie et industrie*, 1919, v. 2, p. 332.

2124. Ezendam, Joh. A. Bloembollen als veevoeder. (Pharmaceutisch weekblad, Amsterdam, 1918, jaarg. 55, p. 494–504.)

Available in Library of the Chemists' Club.

The starch values range from 21.9 for hyacinth bulbs to 38.8 for crocus bulbs. Descriptions and photomicrographs are given for the starches.

Abstract in *Chem. abst.*, 1918, v. 12, p. 1901; *Chem. Zentr.*, 1918, Bd. 2, p. 658.

2125. Utilisation of rice and its by-products. (Great Britain. — Imperial Institute, Bulletin, London, 1918, v. 16, p. 16–24.) **CXA**

Discusses suitability of the rices for starch-making.

Abstract in *Jour. soc. chem. ind.*, 1918, v. 37, p. 601a.

2126. Kofler, Ludwig. Typha als Stärkepflanze. (Zeitschrift für Untersuchung der Nahrungs- und Genussmittel, Berlin, 1918, Bd. 35, p. 266–272.) **VTA**

Roo[illegible] bulrush have been shown to con[illegible]nal com[illegible] 30% to 46% starch, with no acc[illegible]278.) [illegible] poison. Two forms of starch are [illegible]udes det[illegible] grains having diameters, respecti[illegible]d starc[illegible] 3.5μ and 13μ. Gives 3 photomicrogr[illegible].

Abstract in *Jour. soc. chem. ind.*, 1918, v. 37, p. 522a; *Chem. Zentr.*, 1918, Bd. 2, p. 374.

2127. Pantanelli, E. Utilizzazione del gigaro per l'alimentazione e la fabbricazione di amido, glucosio ed alcool. (Stazione sperimentali agrarie italiane, Modena, 1918, v. 51, p. 69–83.) **VPA**

Large quantities of this plant occur in Italy. A yield of 20% starch was obtained by the ordinary methods.

Abstract in *Chem. abst.*, 1919, v. 13, p. 1504; *Chem. Zentr.*, 1918, Bd. 2, p. 851.

2128. Parow, Edmund. Über die Ausbeuten bei der Verarbeitung von durch Frost beschädigten Kartoffeln und diedaraus hervorgehende Preisbemessung für Kartoffelfabrikate. (Zeitschrift für Spiritusindustrie, Berlin, 1918, Jahrg. 41, p. 477.) **†† VTZA**

Abstract in *Chimie et industrie*, 1919, v. 2, p. 705.

2129. Verkade, P. E. Über Blumenzwiebelnstärkemehl. (Auszug.) (Chemisches Zentralblatt, Berlin, 1918, Bd. 2, p. 551.) **PKA**

Discusses the use of acorns, chestnuts and flower bulbs as commercial sources of starch. Micrographs and descriptions are given of the starches from various bulbs.

Abstract in *Chem. abst.*, 1918, v. 12, p. 1602.

2130. Zlataroff, Ass. Die Rhizome des Adlerfarnes (Pteris aquilina L.) als Stärke-Quelle. (Zeitschrift für Untersuchung der Nahrungs- und Genussmittel, Berlin, 1918, Bd. 35, p. 483–484.) **VTA**

Eleven parts of dried brake fern roots yielded 7.6 parts of meal which contained 46% starch. The meal is hardly suitable for bread-making.

Abstract in *Chem. abst.*, 1919, v. 13, p. 1108; *Chem. Zentr.*, 1919, Bd. 2, p. 70.

2131. Cerighelli, R. La farine des graines et la fécule des tubercules de l'Icacina senegalensis. (Musée colonial de Marseille, Annales, 1919, série 3, v. 7, p. 169–178.)

Available in Library of the Department of Agriculture.

This tuber-bearing plant found in Senegambia and in the Chari region. The natives prepare a flour from the seed and sometimes starch from the tubers. The composition of the flour and starch, respectively, is: H_2O 12.65, 12.90; protein 7.80, —; fats 0.08, trace; sugar 72.36, 84.96; fiber 3.90, trace; ash 0.48, 0.26%. — *Chem. abst.*

2132. Cassava as a source of industrial starch and alcohol. (Great Britain. — Imperial Institute, Bulletin, London, 1919, v. 17, p. 571–578.) **CXA**

Abstract in *Chem. abst.*, 1920, v. 14, p. 2837.

2133. Heritage, J. P. Sources of starch. (Scientific American, New York, Oct. 18, 1919, v. 121, p. 388, 398.) **†† VA**

ches and Dextrins, continued.

strial Sources, continued.

. **Dextrin** aus Rosskastanien. (Neu- Erfindungen und Erfahrungen, Wien Leipzig, 1919, Jahrg. 46, p. 422.) **3–VA**

orse chestnuts contain up to 28% starch. r separation of the starch it is con- ed into dextrin by heating with HCl HNO_3 at 120°.

stract in *Chem. Zentr.*, 1920, Bd. 2, p. 194.

. **Pantanelli,** E. Utilizzazione della arecchia o sorgugna (Sorghum hale- e). (Stazione sperimentali agrarie ital- , Modena, 1919, v. 52, p. 405–415.) **VPA**

ves analyses of this plant (Johnson s) and suggests that it could be used naking starch.

stract in *Chem. abst.*, 1921, v. 15, p. 906.

. **Schneidewind.** Wirkung und An- lung der neuen Düngemittel. (Deutsche lwirtschafts-Gesellschaft, Jahrbuch, in, 1919, Bd. 34, p. 305–313.) **VPA**

tes that some potassium fertilizers de- sed the formation of starch in potatoes ugh K_2SO_4 gave a maximum starch ent.

Viswanath, B., and others. Cholam substitute for barley in malting opera- . By B. Viswanath, T. L. Row, and . R. Ayyangar. (India. — Department griculture, Memoirs, Chemical series, atta, 1919, v. 5, p. 117–129.) **VPH**

olam or great millet is better suited for ng purposes than various other com- South Indian cereals investigated and m malt extract hydrolyzes soluble n at a greater rate than barley malt ct.

tract in *Jour. soc. chem. ind.*, 1919, v. 38, p.

Hall, Thomas D., and G. M. Hay. se and starch from maize. (South an journal of industries, Pretoria, 1920, . 597–605.)

ailable in Library of the Chemists'

cuss relative value of certain maize ies for manufacture of starch and glu- n South Africa.

ract in *Chem. abst.*, 1921, v. 15, p. 2994.

Harper, R. A. Inheritance of sugar arch characters in corn. (Torrey Bo- l Club, Bulletin, New York, 1920, v. 137–186.)

ilable in Library of Columbia Uni- .

2140. Johnson, T., and C. Boyle. Industrial and nutritive value of the potato in Ireland. (Abstract.) (Chemical abstracts, Easton, 1920, v. 14, p. 2274.) **PKA**

Discuss conditions affecting starch content.

2141. Mitscherlich, Alfred. Ein Kartoffeldüngungsversuch mit verschiedenen stickstoffhaltigen Düngemitteln. (Fühling's Landwirtschaftliche Zeitung, Stuttgart, 1920, Jahrg. 69, p. 467–469.)

Available in Library of the Department of Agriculture.

The percent starch in the potatoes varied inversely with the amount of N used in the fertilizers. — *Chem. abst.*

2142. Tombeur, F. Changes produced in starch and nitrogenous substances during malting. (Abstract.) (Society of Chemical Industry, Journal, London, 1920, v. 39, p. 461A.) **† VOA**

The loss of starch during steeping and germinating was high; the loss during curing was comparatively small. The amount of diastase formed during germination is directly proportional to the duration of the process.

Also abstracted in *Chem. abst.*, 1920, v. 14, p. 3496.

2143. Clevenger, J. F. A report on the Zamia starch situation. (American Pharmaceutical Association, Journal, Baltimore, 1921, v. 10, p. 837–840.)

Available in Library of the New York Academy of Medicine.

Describes and gives illustrations of the plant which has been marketed under the designation "Florida arrowroot." The air dried rhizomes contain 37% starch which can be extracted by the usual methods. The region where the plant is collected for manufacturing purposes is restricted to an area in the vicinity of Miami, Florida.

Also in *American journal of pharmacy*, 1922, v. 94, p. 98–103.

Abstract in *Chem. abst.*, 1923, v. 17, p. 223.

2144. Grimme, Clemens. Über Maniokmehl. (Zeitschrift für Untersuchung der Nahrungs- und Genussmittel, Berlin, 1921, Bd. 41, p. 172–175.) **VTA**

Analysis of the dried substance shows a starch content of 88%. Gives analysis of ash. The thickening power of manihot starch was very close to that of wheat and corn starch, a little higher than rice or palmsago, but somewhat lower than that of arrow-root or potato starch.

Abstract in *Chem. Zentr.*, 1921, Bd. 4, p. 526; *Chimie et industrie*, 1922, v. 7, p. 352.

Starches and Dextrins, continued.

Industrial Sources, continued.

2145. Peterson, W. H., and HELEN CHURCHILL. The carbohydrate content of the navy bean. (American Chemical Society, Journal, Easton, 1921, v. 43, p. 1180–1185.) **PKA**

Starch was determined by digestion with malt amylase. Although the residue still showed the iodine reaction after 10 hours digestion, the amount of starch obtained was hardly greater than after a 4 hour digestion period. The legume seeds investigated were found to contain, in general, a large amount of starch.

Abstract in *Bull. soc. chim. France,* 1921, série 4, tome 30, p. 1092.

2146. Ripperton, J. C. Hawaiian starches. (Hawaii.—Agricultural Experiment Station, Report, Washington, 1921, p. 38–40.)

Available in Library of the Department of Agriculture.

Discusses commercial extraction of starch from some Hawaiian root crops. The tree fern is specially suggested as a possible commercial source, the core of these plants weighing about 50 to 70 pounds, and consisting, almost entirely, of pure starch.

Abstract in *Chem. abst.,* 1923, v. 17, p. 3427.

2147. Schneidewind. Results of further nitrogen experiments. (Abstract.) (Chemical abstracts, Easton, 1921, v. 15, p. 2522.) **PKA**

A comparison of various N fertilizers. Notes that NH_4Cl depresses the starch content of potatoes.

2148. Cluss, Ad. Zeanin, ein hochwertiges Maispräparat als Malzersatz. (Allgemeine Zeitschrift für Bierbrauerei und Malzfabrikation, Wien, 1922, Jahrg. 50, p. 121–124.) **† VTRA**

The "Zeanin" contains 86% starch and gives a 20% higher extract yield than good malt.

Abstract in *Chem. Zentr.,* 1922, Bd. 4, p. 1177.

2149. Goodson, J. A. Dakamballi starch. (Analyst, London, 1922, v. 47, p. 205–206.) **PKA**

Dakamballi starch, prepared in British Guiana from the fruit of the tree Aldina insignis, has a pale brown color, and granules range from 11 to 42μ in diameter. In mucilage form it proves an effective remedy for diarrhorea and dysentery. Gives chemical analysis and drawings.

Abstract in *Chem. abst.,* 1922, v. 16, p. 2426; *Chem. Zentr.,* 1922, Bd. 3, p. 835.

2150. Ozawa, Takeshi. Mucilage of Abeloschus manihot. (Abstract.) (Chemical abstracts, Easton, 1922, v. 16, p. 4086.) **PKA**

Notes that the mucilage contains 16% starch.

2151. Parow, Edmund. Über den Grössenunterschied der Stärkekörner verschiedener Kartoffelsorten. (Zeitschrift für Spiritusindustrie, Berlin, 1922, Jahrg. 45, p. 103, 111, 119.) **†† VTZA**

Determines starch content and relative size of grains in 20 potato varieties.

Abstract in *Chem. Zentr.,* 1922, Bd. 4, p. 169.

2152. Hawaiian tree ferns found to be source of starch. (Popular mechanics magazine, Chicago, 1922, v. 38, p. 74.) **† VFA**

Photograph is given.

2153. Stengel, and OTTO. Ein Kalidüngungsversuch zu Kartoffeln. (Auszug.) (Chemisches Zentralblatt, Berlin, 1922, Bd. 3, p. 203.) **PKA**

Note a variation in starch content according to the various fertilizers used.

2154. Viehoever, Arno. Interesting substitutes for food products. (American food journal, New York, 1922, v. 17, p. 21–24.) **VTA**

Includes discussion on zamia starch.

2155. Weatherwax, Paul. A rare carbohydrate in waxy maize. (Genetics, Brooklyn, 1922, v. 7, p. 568–572.) **QOPA**

Discusses the presence of erythrodextrin.

2156. Fowler, G. J., and T. DINANATH. The fruit of Bassia longifolia and the changes taking place in its composition after it is gathered. (Indian Institute of Science, Journal, Madras, 1923, v. 6, p. 131–142.) **PKA**

Note that the quantity of starch decreases very rapidly in the first two days of resting and that amylase is very active the first day, after which its activity diminishes.

Abstract in *Jour. soc. chem. ind.,* 1923, v. 42, p. 986A.

2157. Power, F. B., and V. K. CHESNUT. Chemical examination of "chufa," the tubers of Cyperus esculentus linne. (Journal of agricultural research, Washington, 1923, v. 26, p. 69–75.) **VPZ (U. S. Agriculture)**

Note that the tubers contain 12% starch.

Abstract in *Chem. abst.,* 1924, v. 17, p. 408.

2158. Wallis, T. E. Florida arrowroot, from Zamia floridana, A.DC. (Pharmaceuti-

ches and Dextrins, continued.

strial Sources, continued.

ournal and pharmacist, 1923, London, v. p. 235–238.)

ailable in Library of the New York lemy of Medicine.

ves illustrations.

stract in *Chem. abst.*, 1923, v. 17, p. 2170; *Zentr.*, 1923, Bd. 1, p. 1460.

Colin, H., and H. Belval. Les hydro-ones solubles du grain de blé au cours éveloppement. (Académie des sciences, ptes rendus, Paris, 1923, tome 177, p. 346.) ***EO**

te that the starch content increases 5–6% in the newly formed grain to 0% in the mature grain.

stract in *Chem. abst.*, 1923, v. 17, p. 3693; *soc. chem. ind.*, 1923, v. 42, p. 902A.

2160. Morrison, F. R. A chemical examination of the seeds of the "Bunya Bunya" (Arancaria bidwilli Hooker). (Royal Society of New South Wales, Journal and proceedings, Sydney, 1924, v. 58, p. 234–239.) ***EC**

An analysis of the seeds of "Bunya Bunya" gave: Fat 2.60, dextrin 7.72, starch 65.83–66.49, crude fiber, etc., 7.93, H_2O 13.82 and ash 2.12%. Suggests the possibility of using the seeds as a commercial source of starch. — *Chem. abst.*

2161. Neumann, Hans. Kartoffelknollen. (Journal für Landwirtschaft, Berlin, 1925, Jahrg. 73, p. 7–38.) **VPA**

Notes a correlation between long cylindrical forms and low starch content and short forms and high starch content.

MANUFACTURE OF STARCH

Bouriat. Sur la fécule de pomme de préparée par Mme. Chauveau. (So-d'encouragement pour l'industrie na-e, Bulletin, Paris, 1811, année 10, p. .) **VA**

Kirchhoff, G. S. C. Über die Rein-der Getreide-Stärke. (Journal für ie und Physik, Schweigger's, Nürn-1815, Bd. 14, p. 385–389.) **PAA**

d before the Royal Academy of St. sburg, Sept. 1, 1812.

es that commercial starches contain ities which prevent proper clarifica-nd crystallization of the sugar ob-by conversion. Potato starch is much than the ordinary cereal starch. Gives ons for purification of the latter by e of alkali and also for further con-n of the starch to sugar. Describes line form of the sugar.

Barrell, G. G. A description of the of extracting the fecula from the (Franklin journal, Philadelphia, . 5, p. 52–55, 172–173.) **VA**

Claubry, Gaultier de. Sur le con-relatif à la découverte d'un procédé à la préparation de l'amidon en con-le gluten. (Société d'encouragement industrie nationale, Bulletin, Paris, nnée 34, p. 572–575.) **VA**

mber of methods are proposed.

—— Rapport sur le concours rela-préparation de l'amidon en recueil-gluten. (Société d'encouragement pour l'industrie nationale, Bulletin, 1836, année 35, p. 454–457.) **VA**

2166. —— Sur un procédé pour obtenir la fécule des céréales sans putréfaction. (Journal des connaissances usuelles et pratiques, Paris, 1836, tome 23, p. 124–131.)

Available in the Library of Congress.

The finely ground meal is placed on a wire sieve and about four times its weight of cold water sprayed over it. The starch is washed through and the gluten remains; the latter, which had formerly been wasted, may be used as cattle food. From 1,000 pounds of meal, 550 pounds of starch and 300 pounds of gluten may be obtained.

Also in *Ding. poly. Jour.*, 1836, Bd. 60, p. 374–385.

Abstract in *Liebig's Annalen der Chemie*, 1836, Bd. 20, p. 194–196.

2167. Kartoffeln-Stärke und Stärke-Zucker-Fabrication. (Journal für praktische Chemie, Leipzig, 1837, Bd. 11, p. 185–186.) **PKA**

2167A. Martin, Émile. Sur la fabrication de l'amidon en recueillant la gluten. (Société d'encouragement pour l'industrie nationale, Bulletin, 1837, année 36, p. 55–65.) **VA**

Also in *Ding. poly. Jour.*, 1837, Bd. 64, p. 128–139.

2168. Volker's Methode der Stärkefabrication aus Kartoffeln. (Dingler's polytechnisches Journal, Stuttgart, 1840, Bd. 76, p. 213–219.) **3–VA**

2169. Siemens. Beschreibung einer neuen Vorrichtung zur Gewinnung der Kartoffel-

Starches and Dextrins, continued.

Manufacture of Starch, continued.

stärke. (Dingler's polytechnisches Journal, Stuttgart, 1842, Bd. 84, p. 390–392.) **3–VA**

2170. Dumas, and others. Procédé d'extraction de l'amidon des farines, sans altération du gluten et sans fermentation putride. Par Dumas, Thenard, Pelouze, d'Arcet, et Payen. (Académie des sciences, Comptes rendus, Paris, 1844, tome 18, p. 324–325.) ***EO**

The commission found that the method of Martin was a very practical one. Gluten is recovered and finds considerable market while the wash waters have been markedly improved from a health standpoint. A prize of 4,000 francs was awarded.

Also in *Ding. poly. Jour.*, 1844, v. 92, p. 122.

2170A. Nash, E. On the employment of ammonia in the preparation of starch, cleansing of rice, flour, etc. (Mechanics magazine, London, 1844, v. 41, p. 214–215.) **3–VA**

Uses liquid ammonia or strong ammonia solutions to separate gluten from the starch; the ammonia is recovered by distillation. Products obtained in this manner do not ferment readily.

Also in *Ding. poly. Jour.*, 1844, Bd. 94, p. 203–204.

2171. Clerget, A. Ueber die Fabrication des Kartoffelmehls. (Auszug.) (Dingler's polytechnisches Journal, Stuttgart, 1846, Bd. 99, p. 71–73.) **3–VA**

2172. Huck's Siebmaschine für Kartoffelstärkefabriken. (Dingler's polytechnisches Journal, Stuttgart, 1846, Bd. 102, p. 361–363.) **3–VA**

2173. Mammoth starch factory in Michigan. (Franklin Institute, Journal, Philadelphia, 1847, v. 44, p. 421–422.) **VA**

Description of the potato starch factory operated at Almont, Michigan.

2174. Anwendung des Centrifugalapparats in den Bierbrauereien und Stärkefabriken. (Dingler's polytechnisches Journal, Stuttgart, 1850, Bd. 118, p. 236–237.) **3–VA**

2175. Remarks on the manufacture of starch and British gum. (Scientific American, New York, 1851, v. 7, p. 13.) **†† VA**

Briefly describes manufacturing processes.

2176. French potato starch machine. (Scientific American, New York, 1853–54, v. 9, p. 409.) **†† VA**

Gives illustration.

2177. Scheven, H. Ueber die Zusammensetzung und den Nahrungswerth der Rückstände von der Stärkefabrication aus Kartoffeln. (Auszug.) (Chemisches Central-Blatt, Leipzig, 1857, p. 888–893.) **PKA**

2178. Anthon, E. Friedr. Ueber den Stärkemehlgehalt der bei der Ascheidung der Stärke aus Kartoffeln zurückbleibenden Faser. (Dingler's polytechnisches Journal, Stuttgart und Augsburg, 1859, Bd. 154, p. 69–73.) **3–VA**

Abstract in *Chem. Centr.*, 1859, Jahrg. 4, p. 920–924.

2179. Calvert, F. Grace. Manufacture and uses of starch. (Scientific American, New York, 1860, new series, v. 2, p. 151, 167, 181.) **†† VA**

2180. Guensberg, Rudolf. Über die Weizenstärkefabrication nach Martin und die Verwerthung des Klebers als Nahrungsmittel für Menschen wie als Viehfutter. (Dingler's polytechnisches Journal, Augsburg, 1861, Bd. 162, p. 439–445.) **3–VA**

Condensed in *Chem. Centr.*, 1862, p. 103–106; *Wag. Jahr.*, 1861, Jahrg. 7, p. 354.

2181. Manufacture of rice starch in England. (Summary.) (Scientific American, New York, 1862, new series, v. 7, p. 69.) **†† VA**

2182. How to make potato starch. (Abstract.) (Scientific American, New York, 1862, new series, v. 7, p. 327.) **†† VA**

2183. Gautron's Anwendung der Centrifugalmaschine zur Kartoffelstärke-Fabrication. (Dingler's polytechnisches Journal, Augsburg, 1863, Bd. 169, p. 315.) **3–VA**

Abstract in *Wag. Jahr.*, 1863, Jahrg. 9, p. 441.

2184. Nessler, J. Rückstände der Kartoffelstärkefabriken. (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1863, Jahrg. 8, p. 408.) **VOA**

Investigated the residues from two starch factories.

2185. Schmidt, Rob. Neue mechanische Vorrichtung zum Auswaschen der Kartoffelstärke. (Dingler's polytechnisches Journal, Augsburg, 1863, Bd. 169, p. 257–258.) **3–VA**

2186. To make potato starch. (Scientific American, New York, 1863, new series, v. 8, p. 194.) **†† VA**

2187. Stammer, K. Zur Anwendung der Centrifugalmaschine bei der Stärkefabrica-

ches and Dextrins, continued.
ufacture of Starch, continued.

. (Dingler's polytechnisches Journal, sburg, 1863, Bd. 168, p. 454–456.) **3–VA**
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. **Anwendung** der Centrifuge bei der kefabrication. (Verein deutscher Ingenieure, Zeitschrift, Berlin, 1863, Jahrg. 55–60.) **VDA**
eprint in *Wag. Jahr.*, 1863, Jahrg. 9, p. 436–440.

. **Chandelon.** Sur les manufactures de luits chimiques. (Moniteur scientifique locteur Quesneville, Paris, tome 6, 1864, 149–1150.)
vailable in Library of Columbia University.
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bstract in *Wag. Jahr.*, 1864, Jahrg. 10, p. 360.

. **Siemens.** Die Bereitung des Karl-Sago's. (Dingler's polytechnisches nal, Berlin, 1864, Bd. 172, p. 232–233.) **3–VA**
bstract in *Wag. Jahr.*, 1864, Jahrg. 10, p. 361.

. **Schmidt,** Rob. Einige Notizen von Stettiner Maschinen-Ausstellung. ngler's polytechnisches Journal, Augs-, 1865, Bd. 177, p. 116–117.) **3–VA**
Die Maschine zur Stärkefabrication W. Jolitz in Frankfurt.

. The **Manufacture** of starch. (Scien-American, New York, 1865, new series, , p. 81.) **†† VA**

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Die **Champonnois'sche** Reibe für offeln und Runkelrüben. (Dingler's echnisches Journal, Augsburg, 1867, 86, p. 193–195, 351–358.) **3–VA**

Maiche. Improvement in the manure of starch. (Abstract.) (Chemical , London, 1867, v. 15, p. 182.) **PKA**
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Ueber die Anlage von Trocken-n. (Deutsche Industriezeitung, Chem-1868, Nr. 29, p. 282–283.) **† VA**
scussion regarding the drying room of n plants.

2197. Centrifugen in der Stärkefabrication. (Deutsche Industriezeitung, Chemnitz, 1868, Nr. 31, p. 307–308.) **† VA**

2198. Rueckstände von der Stärkefabrication. (Deutsche Industriezeitung, Chemnitz, 1868, Nr. 50, p. 496.) **† VA**

2199. Fesca, A. Ueber die Anwendung der Schwefelsäure in der Kartoffelstärkefabrication. (Jahres-Bericht über die Leistungen der chemischen Technologie, Wagner's, Leipzig, 1869, Jahrg. 14, p. 454–457.) **VOA**

The use of a very small amount of sulphuric acid (barely enough to redden litmus), facilitates the separation of starch and leaves a much purer product. Suggests that the acid dissolves a slimy decomposition product which binds the starch and fiber particles.

Abstract in *Ding. poly. Jour.*, 1868, Bd. 187, p. 435.

2200. Lange. Procédé d'amidonnage persistant des tissus, fils et fibres d'origine végétale. (Le Génie industriel, Paris, 1869, tome 38, p. 269–270.) **VA**

Abstract in *Chem. Centr.*, 1870, p. 342.

2201. Fischer, H. Kartoffelstärkefabriken. (Abgekürzt.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1870, Jahrg. 16, p. 371–377.) **VOA**

2202. A **Starch** factory. (Boston journal of chemistry, Boston, 1870–71, v. 5, p. 124.) **†† OA**

Statistical data regarding the starch factory at Oswego, N. Y.

2203. Fittbogen, J. Bye products of the manufacture of starch and sugar. (Abstract.) (Chemical Society of London, Journal, 1872, v. 25, p. 1136.) **PKA**

Summarized in *Wag. Jahr.*, 1872, Jahrg. 18, p. 473–475, 540.

2204. Adlung, M. Die neueste Standpunct der Reisstärke-Fabrication. (Deutsche Industriezeitung, Chemnitz, 1876, p. 142–144, 294–296.)

Available in Library of the Patent Office.

Also in *Wag. Jahr.*, 1876, Jahrg. 22, p. 703–711; *Ding. poly. Jour.*, 1876, Bd. 211, p. 58–63, 543–548; *Le Technologiste*, Paris, 1876, v. 36, p. 145–148, 209–210.

Abstract in *Jour. chem. soc.*, 1876, v. 30, p. 675–676; 1877, v. 31, p. 363–364; *Jahresber. Chem.*, 1876, p. 1136–1137.

2205. —— Die Weizenstärkefabrication nach dem verbesserten Halleschen Ver-

Starches and Dextrins, continued.

Manufacture of Starch, continued.

fahren. (Deutsche Industriezeitung, Chemnitz, 1876, p. 443–444.)

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Also in *Wag. Jahr.*, 1876, Jahrg. 22, p. 711–715; *Ding. poly. Jour.*, 1877, Bd. 224, p. 304–308.

Abstract in *Jour. chem. soc.*, 1877, v. 32, p. 363; *Jahresber. Chem.*, 1877, p. 1207.

2206. Stollár, Julius. Verwerthung der Rosskastanie zur Stärkefabrikation. (Abgekürzt.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1878, Jahrg. 24, p. 742–746.) **VOA**

Also abstracted in *Jahresber. Chem.*, 1878, p. 1153.

2207. Thenius, Georg. Über die Verwerthung der Stärkefabrikations-Rückstände. (Chemiker-Zeitung, Cöthen, 1878, Jahrg. 2, p. 150.) **†† VOA**

Reprinted in *Wag. Jahr.*, 1878, Jahrg. 24, p. 747–748.

Abstract in *Jahresber. Chem.*, 1878, p. 1153.

2208. Riche, Alf. Extraction de l'amidon du maïs, préparation d'une farine pure de maïs, perfectionnements dans la fabrication du glucose. (Journal de pharmacie et de chimie, Paris, 1880, série 5, tome 1, p. 137–144.) **WTA**

Describes in detail the fermentation method, with and without the use of alkali. The sulphurous acid method used by M. Chiozza at Cervignano is described as well as the commercial saccharification of starch by various acids.

Abstract in *Wag. Jahr.*, 1880, Jahrg. 26, p. 537.

2209. Saloman, F. Die Fabrikation der Reisstärke. (Chemiker-Zeitung, Cöthen, 1880, Jahrg. 4, p. 581–583.) **† VOA**

2210. Arrowroot manufacture in Queensland. (Pharmaceutical journal and transactions, London, 1882–83, series 3, v. 13, p. 224.)

Available in Library of the New York Academy of Medicine.

Abstract in *Jour. soc. chem. ind.*, 1882, v. 1, p. 415.

2211. Saare, Oscar. Verluste in der Kartoffelstärkefabrication. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 174–178.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1883, Jahrg. 29, p. 670.

2212. —— Die Vertheilung grosser und kleiner Stärkekörner in verschiedenen Kartoffelsorten und ihr Einfluss auf die Ausbeute in der Stärkefabriken. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 482–486.)

Available in Library of the Patent Office.

2213. —— Zur Leitungsfähigkeit der Siebvorrichtungen bei der Stärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 1021.)

Available in Library of the Patent Office.

2214. —— Ueber die Verluste beim Einsäuren der Pülpe der Kartoffelstärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1883, N. F., Jahrg. 6, p. 1056–1057.)

Available in Library of the Patent Office.

2215. Uhland, W. H. Reisstärkefabrikation. (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1883, Jahrg. 29, p. 670–671.) **VOA**

2216. Wagner, L. von. Die Maisstärke-Fabrikation als ein neuer landwirthschaftlicher Industriezweig. (Dingler's polytechnisches Journal, Stuttgart, 1883, Bd. 250, p. 173–182.) **3–VA**

Stresses the economic importance of the nitrogenous by-products.

Abstract in *Jour. chem. soc.*, 1884, v. 46, p. 528; *Jour. soc. chem. ind.*, 1884, v. 3, p. 323.

2217. Kette, W. Drei Verfahren, die Proteinstoffe aus verdünntem Kartoffelfruchtwasser als Viehfutter zu gewinnen. (Auszug.) (Central-Blatt für Agrikulturchemie, Biedermann's, Leipzig, 1884, Jahrg. 13, p. 172–174.)

Available in Library of the Department of Agriculture.

2218. Saare, Oscar. Zur Controle der Ausbeute bei der Stärke-Fabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1884, N. F., Jahrg. 7, p. 18–19, 762–763.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1884, Jahrg. 30, p. 735–736.

2219. —— Ueber die für die Stärkefabrikation wichtigen Veränderungen der Zusammensetzung der Kartoffeln in der verschiedenen Reisestadien. (Zeitschrift für Spiritusindustrie, Berlin, 1884, N. F., Jahrg. 7, p. 191–195.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1884, Jahrg. 30, p. 733.

2220. Schaub, C. Welches sind die Gründe, weshalb von der in den Rohmaterialien enthaltenen Stärke durch den technischen Betrieb nich mehr Stärke als bisher gewonnen wird, und welches sind die Entste-

ches and Dextrins, continued.
ufacture of Starch, continued.

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ailable in Library of the Department griculture.

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How starch is made. (Scientific rican, New York, 1885, new series, v. 180.) **VA**

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Toso, Pietro. L'industria della fecola. ali di agricoltura, Roma, 1885, no. 90,

ailable in Library of the Department griculture.

ncipally a description of German proc- . Thirty-seven figures are given.

Rehwald, F. Die Gewinnung des rs bei der Weisenstärkefabrikation. ug.) (Chemisches Central-Blatt, urg und Leipzig, 1886, p. 591.) **PKA**

Saare, Oscar. Die Reibvorrichtun- n den Stärkefabriken. (Zeitschrift für usindustrie, Berlin, 1886, N. F., Jahrg. 00–203.)

ilable in Library of the Patent Office. ract in *Wag. Jahr.*, 1886, Jahrg. 32, p. 608.

—— Wasser für Stärkefabrikation. chrift für Spiritusindustrie, Berlin, N. F., Jahrg. 9, p. 511–512.)

ilable in Library of the Patent Office. water must be free from suspended such as plant residues, iron hydrate, or higher fungi as these materials go h the sieve with the starch and also with it after centrifuging. Iron com- s color the starch yellow. The water also be free from fermenting agents, ia or nitrous acid.

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Archbold, George. The manufacture n starch in America. (Society of al Industry, Journal, London, 1887, 80–84.) **VOA**

ribes the alkali process.

ussion follows. Author's reply to dis- , *ibid.*, p. 189.

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2227. Die **Verwerthung** der Pülpe als Brennstoff. (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1887, Jahrg. 33, p. 871.) **VOA**

2228. MacDonald, J. W. Manufacture of arrowroot starch in St. Vincent. (Society of Chemical Industry, Journal, London, 1887, v. 6, p. 334–337.) **† VOA**

Discusses cultivation of the plant, separation of starch and extent of production.

Abstract in *Chem. Centr.*, 1887, p. 750.

2229. Rotondi, Ermenegildo. Sull' industria dell' amido e sulle principali applicazioni delle sostanze amidacee nei rapporti coll' agricoltura. Amido — destrina — glucoso — maltoso — cerealoso — alcool. (Annali di agricoltura, Roma, 1887, no. 143, 160 p.)

Available in Library of the Department of Agriculture.

2230. Saare, Oscar. Ueber die Wasseraufnahme gesackter Stärke. (Zeitschrift für Spiritusindustrie, Berlin, 1887, N. F., Jahrg. 10, p. 9.)

Available in Library of the Patent Office.

The water content of starch in sacks is related to the moisture content of the air.

2231. —— Kleine Mittheilungen aus der Stärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1887, N. F., Jahrg. 10, p. 296–297, 304–305, 320, 331.)

Available in Library of the Patent Office.

1. Die Kartoffelwäsche. 2. Die Reibe. 3. Die Nachzerkleinerung. 4. Siebvorrichtungen. 5. Reinigen der Stärke. 6. Trocknen der Stärke.

Condensed in *Wag. Jahr.*, 1887, Jahrg. 33, p. 868–870.

2232. Wagner, L. von. Ueber Fortschritte in der Stärke-, Dextrin- und Traubenzuckerfabrikation. (Dingler's polytechnisches Journal, Stuttgart, 1887, Bd. 264, p. 174–179.) **3–VA**

Discusses recent processes for saccharification by malt, by H_2SO_4 and by HNO_3. Mentions the use of $KMnO_4$ for decolorizing starch sugar solutions.

Abstract in *Jour. soc. chem. ind.*, 1887, v. 6, p. 602.

2233. —— Über die Fortschritte in der Stärke-, Dextrin- und Traubenzuckerfabrikation. (Dingler's polytechnisches Journal, Stuttgart, 1887, Bd. 266, p. 471–475, 517–522.) **3–VA**

Discusses starch manufacture in France. States that maize now ranks next to potatoes as raw material. Describes a new product of starch manufacture, "Önogly-

Starches and Dextrins, continued.

Manufacture of Starch, continued.

kose," which is used in the manufacture of wines.

Abstract in *Chem. Centr.*, 1888, p. 159; *Wag. Jahr.*, 1887, Jahrg. 33, p. 875–876.

2234. Saare, Oscar. Zur Kontrolle der Ausbeute in der Kartoffelstärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1888, N. F., Jahrg. 11, p. 301–302.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1888, Jahrg. 34, p. 846–847.

2235. Broessler, J. Fortschritte und Neuerungen auf dem Gebiete der Fabrikation von Stärke, Dextrin, Traubenzucker und verwandter Producte. (Dingler's polytechnisches Journal, Stuttgart, 1889, Bd. 271, p. 133–138, 185–189, 512–515.) **3–VA**

Abstract in *Jour. soc. chem. ind.*, 1889, v. 8, p. 470.

2236. —— Fortschritte und Neuerungen auf dem Gebiete der Fabrikation von Stärke, Dextrin, Traubenzucker u. s. w. (Dingler's polytechnisches Journal, Stuttgart, 1889, Bd. 272, p. 522–527; Bd. 274, p. 328–334.) **3–VA**

2237. Kopp, Ch. Sur l'amidon et ses dérives, de la fabrique A. Schumann à Düttlenheim et Düppigheim en Alsace. (Société industrielle de Mulhouse, Bulletin, Mulhouse, 1889, tome 59, p. 170–181.) **VA**

Describes the plants and their products. The starch is obtained principally from potatoes, maize and wheat. Mentions 4 types of soluble starches prepared by treating starch with sulphurous acid under pressure.

2238. Saare, Oscar. Die Leistung der Compound-Reibe von H. Schmidt-Güstrin. (Zeitschrift für Spiritusindustrie, Berlin, 1889, N. F., Jahrg. 12, p. 157–158.)

Available in Library of the Patent Office.

2239. —— Zur Beurtheilung von Pülpeanalysen. (Zeitschrift für Spiritusindustrie, Berlin, 1889, N. F., Jahrg. 12, p. 351.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 805.

2240. Berger, J. Die Fabrikation von Reisstärke. (Chemiker-Zeitung, Cöthen, 1890, Jahrg. 14, p. 1440, 1557–1558, 1571–1574.) **†† VOA**

Full details of the process as carried out in Germany. Describes construction and use of sieves, settling tanks and filter presses. Discusses methods for moulding the rice and for carrying out the preliminary drying of starch.

Condensed in *Wag. Jahr.*, 1890, Jahrg. 36, p. 809–818.

Abstract in *Jour. soc. chem. ind.*, 1891, v. 10, p. 152–153; *Bull. soc. chim. Paris*, 1891, série 3, tome 6, semestre 2, p. 373–376; *Revue de chimie industrielle*, 1892, année 3, p. 47–48.

2241. Saare, Oscar. Das Untertauch-Absatzbottichsystem in der Stärkefabrication. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p. 59.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 806.

2242. —— Welche Einfluss hat die Kartoffelsorte auf die Feinheit und den Stärkegehalt der Pülpe. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p 68.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 804.

2243. —— Zur Herstellung von Kartoffelmehl. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p. 119.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 808.

2244. —— Zur Neueinrichtung von Trockenanlagen in Nassstärkefabriken. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p. 189–190.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 808.

2245. —— Die Ausbeuteverhältnisse der Kartoffelstärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p. 287–288, 295.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 805.

2246. —— Die Abziehapparate der Stärkefabriken. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p. 367.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 807.

2247. —— Ueber Absetzrinnen. (Zeitschrift für Spiritusindustrie, Berlin, 1890, N. F., Jahrg. 13, p. 361–362.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.*, 1890, Jahrg. 36, p. 807.

2248. Uhland, W. H. Absetzrinnen und Abziehvorrichtungen für Stärkefabriken. (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1890, Jahrg. 36, p. 806.) **VOA**

hes and Dextrins, continued.

ıfacture of Starch, continued.

Berger, J. Zur Fabrikation von Reis-
e. (Chemiker-Zeitung, Cöthen, 1891,
. 15, p. 843–844.) **VOA**

addendum to paper of previous year.
als with the use of caustic soda.

Reinke, Otto. Die Untersuchung
Schlammstärken. (Zeitschrift für Spi-
ndustrie, Berlin, 1891, N. F., Jahrg. 14,
2.)

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ion of the dregs are discussed.

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Vag. Jahr., 1891, Jahrg. 37, p. 826–827.

Saare, Oscar. Ueber Fehler und
esserungen in der Stärkefabrikation.
schrift für Spiritusindustrie, Berlin,
N. F., Jahrg. 14, p. 229, 237–238, 253–
259–260, 275–276, 291.)

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Herzberg, W. Pülpe als Zusatzstoff
Papier. (Papier-Zeitung, Berlin, 1892,
. 17, p. 2034.)

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griculture.

Saare, Oscar. Verarbeitung von
mmstärke und des in den Aussenbe-
n abgesetzten Stärkeschlammes. (Ab-
zt.) (Jahres-Bericht der chemischen
nologie, Wagner's, Leipzig, 1892,
. 32, p. 687–689.) **VOA**

—— Eignet sich Flusssäure zur
endung in der Stärkefabrikation. (Zeit-
t für Spiritusindustrie, Berlin, 1892,
Jahrg. 15, p. 50.)

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periments show that the antiseptic ac-
of HF is not sufficient to justify its
Notes that the imperfect separation
rch and slime is not due to the pres-
of bacteria.

ract in *Chem. Centr.*, 1892, Bd. 1, p. 574;
ahr., 1892, Jahrg. 38, p. 686.

—— Schlechtabsetzende Stärke.
chrift für Spiritusindustrie, Berlin,
N. F., Jahrg. 15, p. 319, 335, 336, 344.)

ilable in Library of the Patent Office.
ommends addition of 0.05% NaOH.

—— Bleichen der Stärke durch
izität. (Zeitschrift für Spiritusindus-
trie, Berlin, 1892, N. F., Jahrg. 15, p. 319–320.)

Available in Library of the Patent Office.

2257. Schmidt, H. Schlecht absetzende Stärke. (Zeitschrift für Spiritusindustrie, Berlin, 1892, N. F., Jahrg. 15, p. 328.)

Available in Library of the Patent Office.

Recommends the addition of a small amount of sulphurous acid or calcium bisulphite.

2258. Saare, Oscar. Die technischen Verhältnisse der Stärkefabrikation im Betriebsjahre 1892–1893. (Abgekürzt.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1893, Jahrg. 39, p. 778–782.) **VOA**

2259. Bondonneau, Lucien. Note sur la fabrication de la fécule de pommes de terre par plans courants. (Société d'encouragement pour l'industrie nationale, Bulletin, Paris, 1893, année 92, p. 849–851.) **VA**

Finds trough settling superior to the practice of settling by tanks.

Abstract in *Jour. soc. chem. ind.*, 1894, v. 13, p. 750.

2260. Broessler, J. Fortschritte und Neuerungen auf dem Gebiete der Fabrikation von Stärke, Dextrin, Traubenzucker, etc. Über Stärkezucker und seine Verwendung zur Weinverbesserung. (Dingler's polytechnisches Journal, Stuttgart, 1893, Bd. 287, p. 231–235, 285–288.) **3–VA**

Abstract in *Chem. Centr.*, 1893, Bd. 1, p. 674.

2261. Stiasny, Ferdinand. Ueber die Einwirkung der Alkalien beim Dämpfen von stärkemehlhaltigen Rohmaterialien. (Zeitschrift für Spiritusindustrie, Berlin, 1893, N. F., Jahrg. 16, p. 190–191.)

Available in Library of the Patent Office.

Alkali has a favorable influence on maize grist as regards opening up and subsequent diastatic action. Alkali treatment also produces considerable maize oil.

Abstract in *Jour. soc. chem. ind.*, 1893, v. 12, p. 941.

2262. Froelich, O. Die praktischen Anwendungen des Ozons. (Elektrotechnische Zeitschrift, Berlin, 1894, Jahrg. 15, p. 572–574.) **† VGA**

Includes directions for bleaching of starch and dextrin with ozone.

Condensed in *Wag. Jahr.*, 1894, Jahrg. 40, p. 417–420.

2263. Krieger, Josef. Die Fabrikation der Stärke, des Dextrins, der Glukose und des Traubenzuckers aus Mais in den Vereinig-

Starches and Dextrins, continued.

Manufacture of Starch, continued.

ten Staaten von Nordamerika. (Zeitschrift für Spiritusindustrie, Berlin, 1894, N. F., Jahrg. 17, p. 316–317, 323–324, 331–332, 350–351, 357–359.)

Available in Library of the Patent Office.

Describes fermentation, acid and alkali methods for manufacture of starch.

Condensed in *Wag. Jahr.*, 1894, Jahrg. 40, p. 801–806.

2264. Saare, Oscar. Stärkefabrikation. (Abgekürzt.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1894, Jahrg. 40, p. 793–795.) **VOA**

2265. —— Angele's Verfahren zur Vertheilung der Rohstärke aus den Absatzbassins in die Aufwaschquirle. (Zeitschrift für Spiritusindustrie, Berlin, 1894, N. F., Jahrg. 17, p. 42–43.)

Available in Library of the Patent Office.

2266. Broessler, J. Fortschritte und Neuerungen auf dem Gebiete der Fabrikation von Stärke, Dextrin, Traubenzucker, u.s.w. (Dingler's polytechnisches Journal, Stuttgart, 1895, Bd. 295, p. 21–24, 37–42.) **3–VA**

A. Weizenstärkefabrikation. B. Maisstärkefabrikation.

Condensed in *Wag. Jahr.*, 1895, Jahrg. 41, p. 788–792.

Partially abstracted in *Jour. soc. chem. ind.*, 1895, v. 14, p. 287; *Chem. Centr.*, 1895, Bd. 1, p. 565.

2267. Hanemann, L. Über die Fortschritte in der Fabrikation der Reisstärke. (Chemiker-Zeitung, Cöthen, 1895, Jahrg. 19, p. 921–924.) †† **VOA**

Condensed in *Wag. Jahr.*, 1895, Jahrg. 41, p. 792–794.

2268. Hanow, H. Ueber Fortschritte in der Stärke-Industrie. (Chemiker-Zeitung, Cöthen, 1895, Jahrg. 19, p. 708–709.) †† **VOA**

The first of a series of 11 annual reviews appearing in the *Chemiker-Zeitung*; no review appearing in the year 1901, however. The progress in methods of manufacture and analysis for the year 1894 is discussed.

Abstract in *Jour. soc. chem. ind.*, 1895, v. 14, p. 615.

2269. Horton, Horace E. Alkali and sulphurous acid processes used in the manufacture of starch from corn. (American Chemical Society, Journal, Easton, 1895, v. 17, p. 68–69.) **PKA**

Gives flow sheet for the two processes.

2270. Hanow, H. Ueber die Fortschritte in der Stärke-Industrie. (Chemiker-Zeitung, Cöthen, 1896, Jahrg. 20, p. 944–947.) †† **VOA**

Reviews progress in methods of manufacture and analysis for the year 1895.

2271. Hebert. Du contrôle de la fabrication de la fécule. (Association des chimistes de sucrerie et de distillerie, Bulletin, Paris, 1896-97, tome 14, p. 1003–1011.) **PKA**

Discussion, p. 1011–1012.

Discusses methods of starch determination and extraction from potatoes by fermentation and by rasping.

Also in *Zeit. ang. Chem.*, 1898, Jahrg. 11, p. 161–164.

Abstract in *Jour. soc. chem. ind.*, 1897, v. 16, p. 623; *Wag. Jahr.*, 1898, Jahrg. 44, p. 773.

2272. Hundhausen, J. Neuerungen in der Stärkefabrikation. (Verein zur Beförderung des Gewerbfleises, Sitzungsberichte, Berlin, 1896, p. 182–189.) **VA**

Abstract in *Wag. Jahr.*, 1896, Jahrg. 42, p. 770–772.

2273. Hanemann, L. Fortschritte in der Fabrikation der Reisstärke. (Chemiker-Zeitung, Cöthen, 1897, Jahrg. 21, p. 982–984.) †† **VOA**

Discusses an improved form of cylindrical sieve, the drying process and prevention of fermentation.

Abstract in *Jour. soc. chem. ind.*, 1898, v. 17, p. 58.

2274. Hanow, H. Ueber die Fortschritte in der Stärke-Industrie. (Chemiker-Zeitung, Cöthen, 1897, Jahrg. 21, p. 777–780.) **VOA**

Gives statistical data for the year 1896 and reviews progress in methods of manufacture and analysis.

2275. Hundhausen, J. Herstellung von Kartoffelstärke. (Auszug.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1897, Jahrg. 43, p. 781.) **VOA**

2276. Saare, Oscar. Organismen in der Stärkefabrikation. (Abgekürzt.) (Jahres-Bericht der chemischen Technologie, Wagner's, Leipzig, 1897, Jahrg. 43, p. 782–786.) **VOA**

At 10° the effect of bacteria in expressed starch milk is not marked although at 20–26° the bacteria multiply rapidly and the liquors develop acidity. The conditions are the same in the wash waters as in the expressed starch milk. Addition of sulphurous acid almost wholly suppressed bacterial action at the higher temperature. Complete aeration by centrifugal machines is also effective in checking bacterial action.

Abstract in *Jour. soc. chem. ind.*, 1897, v. 16, p 547.

ches and Dextrins, continued.

ufacture of Starch, continued.

. **Hanow,** H. Ueber Fortschritte in Stärkefabrikation. (Chemiker-Zeitung, ıen, 1898, Jahrg. 22, p. 560–562.) **VOA**

ives statistics and important advances nanufacture and analysis for the year .

ndensed in *Bull. assoc. chimistes,* 1898–99, tome . 369–371.

. **Saare,** Oscar. Untersuchungen über sstärke. (Zeitschrift für Spiritusindus- Berlin, 1898, N. F., Jahrg. 21, p. 203–)

vailable in Library of the Patent Office.

ostract in *Wag. Jahr.,* Berlin, 1898, Jahrg. 44, 0–772.

. —— Schlecht verkleisternde Mais- ke. (Zeitschrift für Spiritusindustrie, lin, 1898, N. F., Jahrg. 21, p. 405.)

vailable in Library of the Patent Office.

. —— Verschlammung der Siebe in Stärkefabrikation. (Zeitschrift für Spi- industrie, Berlin, 1898, N. F., Jahrg. 21, 37.)

vailable in Library of the Patent Office.

ıe black deposit, which clogs the fine es used in starch manufacture, is shown onsist mostly of albuminous matter and ing proportions of ash. Two per cent tic soda solution is used in removing deposit.

stract in *Jour. soc. chem. ind.,* 1899, v. 18, p.

Wiley, Harvey W. Die Zusammen- ıng des Mais (Indian corn), seiner ıer, Mahlproducte, Halme, Mark, Kol- und Futterabfälle. (Internationaler ress für angewandte Chemie, 3d, ı, 1898, Bericht, Bd. 2, p. 320–350.) **PKR**

neral discussion includes microscopic ination of corn starch and manufacture arch and glucose.

Hanow, H. Ueber Fortschritte in Stärkefabrikation. (Chemiker-Zeitung, en, 1899, Jahrg. 23, p. 735–737.) **†† VOA**

es statistical data for the year 1898 iscusses progress in methods of manu- e and analysis.

Mez, Carl. Zur Frage der fäul- higen Industrieabwässer. (Zeitschrift ewässerkunde, Dresden, 1899, Bd. 2, 9.) **VDA**

p. 8 discusses the use of impure wa- n the starch plant.

2283. Chandler, C. F. President's address, Society of Chemical Industry, 1900. (Society of Chemical Industry, Journal, London, 1900, v. 19, p. 617.) **VOA**

In a comprehensive survey of American industries, discusses and gives statistics of the manufacture of starch and glucose.

2284. Duryea, Chester B. Method of starch manufacture. (Abstract.) (Society of Chemical Industry, Journal, London, 1900, v. 19, p. 1126.) **VOA**

Separates the finer starch granules for use as a superior laundry starch.

2285. Hanow, H. Ueber Fortschritte in der Stärke-Fabrikation. (Chemiker-Zeitung, Cöthen, 1900, Jahrg. 24, p. 889–890.) **†† VOA**

Gives statistical data for the year 1899 and reviews progress in methods of manufacture and analysis.

2286. Saare, Oscar. Untersuchung von Weizen für Zwecke der Stärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1901, N. F., Jahrg. 24, p. 59.)

Available in Library of the Patent Office.

Abstract in *Wag. Jahr.,* 1901, Jahrg. 47, p. 273.

2287. Archbold, George. The manufacture of maize starch. (Society of Chemical Industry, Journal, London, 1902, v. 21, p. 4–9.) **VOA**

Includes specification for 1000 bushel plant and illustration showing longitudinal sectional elevation of starch plant.

2288. Hanow, H. Ueber Fortschritte in der Stärkefabrikation. (Chemiker-Zeitung, Cöthen, 1902, Jahrg. 26. p. 381–384.) **†† VOA**

Gives statistical data for the year 1901 and discusses progress in methods of manufacture and analysis.

2289. Federer, B. Über den Einfluss von Gewittern auf die Stärkefabrikation. (Chemiker-Zeitung, Cöthen, 1903, Jahrg. 27, p. 925–926.) **†† VOA**

The spoiling of starch is not caused by atmospheric conditions, but is chiefly due to the quantity of residual albumenoids.

2290. Hanow, H. Stärkefabrikation. (Chemiker-Zeitung, Cöthen, 1903, Jahrg. 27, p. 323–326.) **†† VOA**

Gives statistical data for the year 1902 and discusses progress in methods of manufacture and analysis.

2291. Bode, G. Bericht über die Fortschritte der landwirtschaftlich-technischen

Starches and Dextrins, continued.

Manufacture of Starch, continued.

Gewerbe im Jahre 1903. (Chemische Industrie, Berlin, 1904, Jahrg. 27, p. 515–521.) **3–VOA**

Discussion includes starch and starch manufacture.

2292. Hanow, H. Stärkefabrikation. (Chemiker-Zeitung, Cöthen, 1904, Jahrg. 28, p. 403–405.) **†† VOA**

Gives statistical data for the year 1903 and reviews progress in methods of manufacture and analysis.

2293. Leconte, E. Verwendung der Elektrolyse zur Fabrikation von Stärkemehl und stärkemehlhaltigen Stoffen. (Elektrochemische Zeitschrift, Berlin, 1904–05, Jahrg. 11, p. 113–115.) **PKA**

Rice is washed with dilute NaOH to remove gluten and the starch separated by means of an electric current, either direct or alternating. Gives illustration.

Abstract in *Chem. Centr.*, 1904, Bd. 2, p. 1076.

2294. Schwefligsäure in der Stärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1904, N. F., Jahrg. 27, p. 185–186, 214.) **†† VTZA**

Abstract in *Wag. Jahr.*, 1904, Jahrg. 50, Abt. 2, p. 221.

2295. Hanow, H. Stärkefabrikation. (Chemiker-Zeitung, Cöthen, 1905, Jahrg. 29, p. 881–884.) **†† VOA**

Gives statistics for starches, adhesives and dextrins for the year 1904. Discusses scientific and industrial developments.

2296. —— Stärkefabrikation. (Chemiker-Zeitung, Cöthen, 1906, Jahrg. 30, p. 933–935, 949–951.) **†† VOA**

Gives statistical data for the year 1905 and discusses progress in methods of manufacture and analysis.

2297. Kruijff, E. de. Eene biologische bereidingsmethode van cassavameel. (Teysmannia, Batavia, 1906, deel 17, p. 503–508.)

Available in Library of the Department of Agriculture.

Found that it was possible to obtain a larger yield of cassava starch by biological methods than by mechanical methods. The former method consisted in allowing bacteria to destroy the cell walls and free the starch.

2298. Parow, Edmund. Die fabrikmässige Bestimmung der Stärkeausbeute in einer Kartoffelstärkefabrik. (Zeitschrift für Spiritusindustrie, Berlin, 1906, N. F., Jahrg. 29, p. 51–52.)

Available in Library of the Patent Office.

Describes the method to be followed for determining the yield of starch in the factory, and for tracing the sources of loss, if any.

Abstract in *Jour. soc. chem. ind.*, 1906, v. 25, p. 225; *Chem. Centr.*, 1906, Bd. 1, p. 979.

2299. Recent processes introduced in France for the preparation of starch. (Scientific American supplement, New York, 1906, v. 61, p. 25239.) **†† VA**

Deals principally with the preparation of soluble starch.

2300. Fernbach, Auguste. Fortschritte auf dem Gebiete der Stärkeforschung. (Chemiker-Zeitung, Cöthen, 1908, Jahrg. 32, p. 1068.) **†† VOA**

Brief discussion.

Abstract in *Jour. soc. chem. ind.*, 1908, v. 27, p. 1169.

2301. McDonnell, C. C. The manufacture of starch from sweet potatoes. (South Carolina. — Agricultural Experiment Station, Columbia, Bulletin no. 136, 1908, 14 p.) **VPG**

Discusses cultivation of the sweet potato and gives analyses of a number of varieties. Sweet potato starch, produced on an experimental scale, proved satisfactory for use in laundrying and in the textile industry. Gives photograph of experimental potato starch factory.

Abstract in *Chem. abst.*, 1908, v. 2, p. 2464; *Jour. soc. chem. ind.*, 1909, v. 28, p. 1265.

2302. Stanton, R. La féculerie hollandaise comparée à la féculerie française. (Société d'encouragement pour l'industrie nationale, Bulletin, Paris, 1908, année 107, p. 1467–1473.) **VA**

Detailed analysis of economic factors affecting the price of Dutch starch.

Abstract in *Bull. assoc. chimistes*, 1908–09, tome 26, p. 729–730; *Chem. abst.*, 1909, v. 3, p. 1103.

2303. Aulard, A. De la dessiccation des moûts épuisés (drèches de brasserie, de distillerie, féculerie, etc.). (International Congress of Applied Chemistry, 7th, London, 1909, [Proceedings], section 6b, p. 38–45.) **PKR**

Abstract in *Jour. soc. chem. ind.*, 1911, v. 30, p. 234.

2304. La **Fabrication** de l'amidon de maïs et de ses sous-produits aux États-Unis. (Génie civil, Paris, 1909, tome 55, p. 240–242.) **† VA**

States that the first attempted extraction of starch from maize was carried out in

ches and Dextrins, continued.
ufacture of Starch, continued.

y. This work served as a basis for the arches of Matthiesen who promoted industry in the United States. Gives iled description of the process and pment of the American Maize Products at Roby, Indiana.

so in *Bull. assoc. chimistes,* 1909–10, tome 27, 0–633.

. **Parow,** Edmund. Die Leistungsfähit von Zerkleinerungs- und Auswaschraten in der Kartoffelstärkefabrikation. tschrift für Spiritusindustrie, Berlin, , Jahrg. 32, p. 311–312.) †† **VTZA**

. —— Ausbeutetabelle für Kartoffelknung und Stärkefabrikation. (Zeitift für Spiritusindustrie, Berlin, 1909, g. 32, p. 450.) †† **VTZA**

stract in *Chem. Zentr.,* 1909, Bd. 2, p. 1503.

. —— Ausbeutetabelle für Kartoffelknung und Stärkefabrikation. (Zeitift für Spiritusindustrie, Berlin, 1909, g. 32, p. 601–602.) †† **VTZA**

Presentation of the Perkin Medal. iety of Chemical Industry, Journal, lon, 1909, v. 28, p. 342–343.) **VOA**

of. C. F. Chandler discusses the work r. Behr in the development of the corn ucts industry.

Wagner, T. B. The American iny of corn products. (Society of Chemndustry, Journal, London, 1909, v. 28, –348.) **VOA**

story, statistics and methods of the try.

tract in *Chem. abst.,* 1909, v. 3, p. 1706; *Zentr.,* 1909, Bd. 1, p. 1903.

Kaufmann, W. P. Maize products naize starch and its products. (Society hemical Industry, Journal, London, v. 29, p. 527–531.) † **VOA**

cusses the preparation of starch from considering the steeping, milling, corn ortical and endospermal portions. up the manufacture of glucose, grape and corn sirup. Under the subject of describes chemicalled and unchemstarch. A large portion of the paper oted to the commercial uses of starch e products made from same. — *Chem.*

ract in *Chem. Zentr.,* 1910, Bd. 2, p. 250; *c. chim. France,* 1911, série 4, tome 10, p.

2311. Schreib, H. Fortschritte in der Fabrikation von Reisstärke. (Chemiker-Zeitung, Cöthen, 1910, Jahrg. 34, p. 522–523.) †† **VOA**

2312. Industrial extraction of starches. (Abstract.) (Chemical abstracts, Easton, 1911, v. 5, p. 2345.) **PKA**

Brief description of the process of extracting starch from potatoes and cereals.

2313. François, L. L'industrie féculière en France. (Revue scientifique, Paris, 1911, v. 49, p. 461–466.) **OA**

2314. Laurent. L'état actuel de la féculerie industrielle. (Revue générale de chimie pure et appliquée, Paris, 1911, tome 14, p. 105–116.) † **PKA**

A discussion of the most modern forms of machinery and their arrangement. Thirteen figures are given.

2315. Wagner, T. B. Disposal of starch factory wastes. (Journal of industrial and engineering chemistry, Easton, 1911, v. 3, p. 99–100.) † **VOA**

2316. Maize products and maize starch and its products. (Chemical engineer, Chicago, 1912, v. 15, p. 201–206.)

Available in Library of the Chemists' Club.

2317. Humphrey, H. C. The influence of by-products upon the development of the industry of corn products. (International Congress of Applied Chemistry, 8th, Washington and New York, 1912, Original communications, v. 13, p. 189–193.) **PKR**

Gives diagram illustrating the utilization of the various portions of the corn kernel and gives analysis of corn solubles obtained by evaporating the steep water obtained in the first stages of starch manufacture.

2318. Tanaka, Yoshio. Starch industry of Chiba. [Title translated.] (Kogyo-Kwagaku Zasshi [Journal of chemical industry], Tokyo, 1912, v. 15, no. 178, p. 1298–1312.)

Available in Library of the Department of Agriculture.

2319. Traquair, John. The starch industry of Great Britain. (Society of Chemical Industry, Journal, London, 1912, v. 31, p. 1016–1018.) **VOA**

Discusses location of plants, processes of manufacture and gives statistics for years 1909–1911.

Starches and Dextrins, continued.

Manufacture of Starch, continued.

2320. The **Glucose** and starch industry in the United States. (Metallurgical and chemical engineering, New York, 1913, v. 11, p. 698–699.) **VOA**

A statistical report.

2321. Parow, Edmund. Die Rohstärkefabriken Fritzow und Drammin. (Zeitschrift für Spiritusindustrie, Berlin, 1913, N. F., Jahrg. 36, p. 217, 255–256.) †† **VTZA**

Photographs and illustrations are given.

2322. Japanese make starch in potato field. (Popular mechanics magazine, Chicago, 1913, v. 20, p. 426.) † **VFA**

Gives photograph.

2323. Larue, Pierre. La pomme de terre de féculerie en montagne. (Annales de la science agronomique française et étrangère, Paris, 1914, année 31, p. 343–345.) **VPA**

2324. Skinner, R. P. Utilization of potatoes in Europe. (United States. — Bureau of Foreign and Domestic Commerce, Special consular reports, Washington, D. C., 1914, no. 64, 44 p.) **Vertical File (121)**

Discusses the low starch content of American potatoes, gives statistical and analytical data, and describes process for manufacture of potato starch.

2325. Matthiae, Rudolf. Die Stärke und ihre Verwertung in der Industrie. (Chemische Apparatur, Leipzig, 1915, Jahrg. 2, p. 223–226, 233–235, 245–247.) † **VOA**

Descriptions, with 13 cuts, of apparatus for making starch from potatoes and corn and its conversion into sirup, dextrin and glucose. Dimensions of apparatus for making 11 tons of glucose per 24 hours, and general directions for operating, are given. — *Chem. abst.*

2326. Bryant, Arthur P. Factory control in manufacture of corn starch and corn sirup. (Journal of industrial and engineering chemistry, Easton, 1916, v. 8, p. 930–932.) † **VOA**

A comprehensive outline of the chemical control used by the author in the treatment of corn for the manufacture of its various products and by-products. — *Chem. abst.*

2326A. Christiani, Rud. Om Fabrikation af Kartoffelstivelse og Mulighederne for en Udvikling af denne Industri i Danmark. (Ingeniøren, København, 1916, Aarg. 25, p. 443–450.) **VDA**

Gives diagrams and description of potatoes, of potato starch granules and of a starch plant with a capacity of 1,000 kg. per hour. The description of the latter has been taken from German manufacturing practice. Discusses economic factors affecting the introduction of the industry into Denmark. The chief difficulty has been the reluctance of farmers to produce a sufficient quantity of potatoes.

2327. Goldbeck, C. Neue Verfahren der Weizenstärkeindustrie. (Chemiker-Zeitung, Cöthen, 1916, Jahrg. 40, p. 829–830.) †† **VOA**

New methods, which effect a more perfect separation of starch from gluten, yield 58–60% starch as compared with old methods giving 34–52%.

Abstract in *Jour. soc. chem. ind.*, 1916, v. 35, p. 1169.

2328. Wehmer, C. Verwertung verdorbener Kartoffeln als Futter und technisches Rohmaterial. (Auszug.) (Chemiker-Zeitung, Cöthen, 1916, Jahrg. 40, p. 1073.) †† **VOA**

For the preparation of pastes, dextrin, alcohol, etc., the diseased potatoes may be directly hydrolyzed with acid.

Also abstracted in *Jour. soc. chem. ind.*, 1917, v. 36, p. 159.

2329. Bryant, Arthur P. Manufacture of corn starch, corn sirup, and corn sugar. (American food journal, New York, 1917, v. 12, p. 511–515.) **VTA**

Gives 5 photographs illustrating plant processes.

2330. Goosen, G. The potato starch industry in Holland. (Abstract.) (Chemical abstracts, Easton, 1918, v. 12, p. 635.) **PKA**

2331. Gore, H. C. Potato utilization possibilities. (Abstract.) (Experiment station record, Washington, 1918, v. 38, p. 207.) **VPG (United States)**

A brief discussion of the manufacture of potato starch and dextrin and of potato drying, together with a method developed by Gore for drying potatoes, practicable in small factories or on farms.

2332. Heiduschka, A. Über die Verwendung der Roßkastanien. (Pharmazeutische Zentralhalle für Deutschland, Dresden, 1918, Jahrg. 59, p. 291–293.)

Available in Library of Columbia College of Pharmacy.

The meal of horse chestnuts is made into a paste with sodium sulphite solution, the

rches and Dextrins, continued.

ufacture of Starch, continued.

e mixed with water, and the starch hed through a fine sieve. A 40% yield tarch is obtained.

bstract in *Chem. abst.*, 1919, v. 13, p. 3334; *. Zentr.*, 1919, Bd. 2, p. 182.

. **Lindner,** Rudolph. Die Leistungsgkeit der deutschen Stärkeindustrie. itschrift für Spiritusindustrie, Berlin, , Jahrg. 41, p. 335.) †† **VTZA**

bstract in *Chimie et industrie,* 1919, v. 2, p. 332.

. **Parow,** Edmund. Stärkeverluste in Pülpe! (Zeitschrift für das Spiritusinrie, Berlin, 1918, Jahrg. 41, p. 391.) †† **VTZA**

iscusses monetary loss due to inefficient esses.

bstract in *Chem. Zentr.*, 1918, Bd. 2, p. 997.

. **Poucher,** W. A. Industrial value of potato. (Pharmaceutical journal and macist, London, 1918, v. 101, p. 63–64.) **WTA**

ief outlines are given of the manufac- of starch, dextrin, glucose, alcohol and hetic rubber from the potato. — *Chem.*

. **Verschiedene** Herstellungsweisen Maisstärke. (Zeitschrift für Spiritusinrie, Berlin, 1918, Jahrg. 41, p. 195.) †† **VTZA**

Verschiedenartige Behandlung der kemilch. (Zeitschrift für Spiritusindus- Berlin, 1918, Jahrg. 41, p. 399.) †† **VTZA**

es three methods for obtaining a more ent deposition of starch from the h milk or the wash waters. They are der, dilution of the starch milk, the f fine sieves and the use of chemicals; e chemicals, calcium sulphite is most ive.

tract in *Chem. Zentr.*, 1919, Bd. 2, p. 181.

Die **Reinigung** der Siebe in den efabriken. (Zeitschrift für Spiritusinie, Berlin, 1918, Jahrg. 41, p. 407.) †† **VTZA**

cined soda or sulphurous acid is used.

tract in *Chem. Zentr.*, 1919, Bd. 2, p. 182.

Hammerstein, F. O. Über einige raturen der chemischen Qualitätsentechnik. (Chemische Apparatur, ig, 1919, Jahrg. 6, p. 105–108, 115–117.) † **VOA**

criptions with 8 cuts of vacuum driers re suited for drying of dextrins and substances.

2340. Hembd, K. Absitzversuche mit Kartoffelstärke. (Zeitschrift für Spiritusindustrie, Berlin, 1919, Jahrg. 42, p. 395.) †† **VTZA**

Good starch is deposited more rapidly than that of poorer quality. The salt content of the water does not seem to affect the results.

2341. Lindner, Rudolf. Erhöhte Herstellerpreise für die Erzeugnisse der Stärkefabrikation und der Kartoffeltrocknerei. (Zeitschrift für Spiritusindustrie, Berlin, 1919, N. F., Jahrg. 42, p. 59–60.) †† **VTZA**

2342. Parow, Edmund. Die wirtschaftlichen Nachteile einer ungenügenden Zerkleinerung der Kartoffeln und einer mangelhaften Leistung der Auswaschapparate. (Zeitschrift für Spiritusindustrie, Berlin, 1919, N. F., Jahrg. 42, p. 85, 117.) †† **VTZA**

Six tables are given showing the loss in starch.

Abstract in *Chem. Zentr.*, 1919, Bd. 2, p. 676.

2343. Explosion in starch plant brings death and ruin. (Popular mechanics magazine, Chicago, 1919, v. 32, p. 201.) † **VFA**

Two photographs are given.

2344. Wischo, F. Über die Gewinnung der Stärke aus Roßkastanien. (Auszug.) (Chemisches Zentralblatt, Berlin, 1919, Bd. 4, p. 46.) **PKA**

The horse chestnuts are dissected mechanically, steeped in water, the water strained off, and the starch separated after settling; yield, 6.5%. The starch is almost completely free from saponins and fulfills the pharmaceutical requirements; the majority of the granules are 30–40μ in diameter.

Abstract in *Chem. abst.*, 1920, v. 14, p. 653.

2345. Gesell, Hermann. Über den Übergang zur Braunkohlenfeuerung in Stärkefabriken und Trocknereien. (Zeitschrift für Spiritusindustrie, Berlin, 1920, Jahrg. 43, p. 267–268, 279.) † **VTZA**

Abstract in *Chem. abst.*, 1921, v. 15, p. 159.

2346. Laskowsky, W. Fortschritte auf dem Gebiete der Stärke- und Gärungsindustrie 1914–1919. (Chemiker-Zeitung, Cöthen, 1920, Jahrg. 44, p. 441–443, 451–452, 462–463, 478–479, 486–489, 497–499, 505–506.) †† **VOA**

A general survey.

Abstract in *Chimie et industrie,* 1921, v. 6, p. 219.

2347. Moore, Charles C. Technic of potato starch manufacture. (Potato magazine, Chi-

Starches and Dextrins, continued.

Manufacture of Starch, continued.

cago, 1920, v. 2, no. 12, p. 10–11, 20, 22–23; v. 3, no. 1, p. 8–9, 20, 22–23.) † VPA

This paper consists of a detailed description of the various processes in the manufacture of potato starch, together with a discussion of the marketing possibilities of the product. — *Chem. abst.*

2348. **Parow,** Edmund. Nachteile fehlerhafter Arbeit. (Zeitschrift für Spiritusindustrie, Berlin, 1920, N. F., Jahrg. 43, p. 171.) †† VTZA

Notes a faulty method in starch manufacture.

2349. **Rubeln,** M. Die Kartoffelstärkegewinnung durch Stärkeabziehverfahren. (Zeitschrift für Spiritusindustrie, Berlin, 1920, N. F., Jahrg. 43, p. 44–45.) †† VTZA

A process of starch manufacture is described, for which a number of advantages are claimed. Three figures are given.

Abstract in *Chem. Zentr.*, 1920, Bd. 2, p. 606.

2350. **Fowler,** G. J., and D. L. Sen. Bacteria associated with rice and other cereals. (Indian Institute of Science, Journal, Bangalore, 1921, v. 4, p. 119–147.) PKA

Find the chief source of bacterial infection in a starch factory is the grain used as raw material; also that the ordinary methods of cooking rice do not produce sterility, the surviving bacteria being those which produce acetone. Suggest that rice, intended for starch manufacture, be sterilized by dry treatment with SO_2.

Abstract in *Jour. soc. chem. ind.*, 1922, v. 41, p. 431A.

2351. **Gill,** H. V. The manufacture of maize products. (South African Institution of Engineers, Journal, Johannesburg, 1921, v. 19, p. 114–121.) VFA

Describes process for manufacture of raw starch and modified starches.

2352. **Gore,** H. C. The utilization of the potato. (New Jersey. — Department of Agriculture, Trenton, Bulletin 28, 1921, p. 253–274.) VPZ

An address dealing with the possible methods of utilizing potatoes. The methods of manufacture of dehydrated potatoes, dried pressed potatoes for stock feed, alcohol, potato flour, and starch are outlined. — *Chem. abst.*

2353. **Krauss,** F. G. Production of starch on a small commercial scale from root crops and corn. (Hawaii. — Agricultural Experimental Station, Report, Washington, 1921, p. 55–57.)

Available in Library of the Department of Agriculture.

Gives results with canna, taro, cassava, corn, sweet potatoes and irish potatoes. Reports that, with prevailing market prices, the process is a profitable undertaking.

Abstract in *Chem. abst.*, 1923, v. 17, p. 3425.

2354. **Parow,** Edmund. Über die Stärkeverluste in der Pülpe. (Zeitschrift für Spiritusindustrie, Berlin, 1921, Jahrg. 44, p. 59.) †† VTZA

2355. **Williams,** R. H. The manufacture of starch, glucose and by-products. (Canadian chemistry and metallurgy, Toronto, 1921, v. 5, p. 195–196.) † VOA

Brief description of the manufacture of corn products.

Abstract in *Chem. abst.*, 1921, v. 15, p. 3224.

2356. **Wise,** F. B. The manufacture of starch from rice. (Associated Rice Millers. Bull's eye, New Orleans, 1921, v. 1, no. 11, p. 18–20.) VPMA

Notes that air dried rice contains 79% starch. Details process of manufacture using dilute NaOH solutions.

Abstract in *Chem. abst.*, 1922, v. 16, p. 1516.

2357. **Burtt-Davy,** Joseph. Starch and glucose from maize. 1, 2, 3. (South African journal of industry, 1922, v. 5, p. 130–136, 177–183, 217–222.)

Available in Library of the Chemists' Club.

2358. **Sprockhoff.** Der Schaum. (Zeitschrift für Spiritusindustrie, Berlin, 1922, Jahrg. 45, p. 157.) †† VTZA

The scum which appears on starch milk during potato starch manufacture may be considerably lessened by heating to 100°. This action is attributed to the weakening of some scum forming constituent such as solanin.

Abstract in *Chem. Zentr.*, 1922, Bd. 4, p. 322.

2359. **Parow,** Edmund. Die Bedeutung der Trennschleudern für die Kartoffelstärkefabrikation. (Zeitschrift für Spiritusindustrie, Berlin, 1922, Jahrg. 45, p. 235.) †† VTZA

Author agrees, in general, with the statements of Sprockhoff but doubts that an yeast separator is more suitable than the Jahn drying-centrifuge.

Abstract in *Chem. Zentr.*, 1922, Bd. 4, p. 1089.

2360. **Sprockhoff.** Der Wärmewirkungsgrad der Vakuumtrockner für Kartoffel-

ches and Dextrins, continued.

ufacture of Starch, continued.

ke. (Zeitschrift für Spiritusindustrie, in, 1922, Jahrg. 45, p. 253.) †† **VTZA**

tisfactory results were obtained with rifuged starch and dextrin.

stract in *Chem. Zentr.*, 1922, Bd. 4, p. 1141.

. **Cathcart**, W. R. Textile applications orn starch and its derivatives. (Ameri- dyestuff reporter, New York, 1923, v. . 21–24.) **VOR**

scussion, p. 24–28.

e processes of making corn starch, ified starches, corn sirup, corn sugar, and thick boiling starches such as are in textile work are described. — *Chem.*

printed in *Textile colorist*, v. 45, Jan. 1, 1923, -26.

stract in *Chimie et industrie*, 1923, v. 10, p. 139.

. **Krizkovsky**, O. K. A. Die Fabrika- der Weizenstärke. (Zeitschrift für Spi- industrie, Berlin, 1923, Jahrg. 46, p. 123, 131, 139.) †† **VTZA**

ves detailed description of Martin's od.

Parow, Edmund. Über Neuerungen er Stärkefabrikation. (Zeitschrift für tusindustrie, Berlin, 1923, Jahrg. 46, p. 5–7, 12, 17–18, 23.) †† **VTZA**

discussion of new machinery. A num- f illustrations are given.

tract in *Chem. Zentr.*, 1923, Bd. 2, p. 1034.

Ekhard, W. Richtlinien für die eilung von Kartoffelmehl. (Zeitschrift piritusindustrie, Berlin, 1924, Jahrg. 183–184, 196.) †† **VTZA**

cusses methods for manufacture of po- tarch.

McCurdie, T. Maize starch industry. mical, Metallurgical and Mining So- of South Africa, Journal, Johannes- 1924, v. 25, p. 44–48.) **VIA**

Nottin, P. Sur le contrôle scienti- en féculerie. (Chimie et industrie, Paris, May, 1924, numéro spécial, p. 662–664,) **VOA**

Results obtained in works' control of small starch factories are given, showing the necessity for close control of all operations. — *Chem. abst.*

Reprinted in detail with microphotographs in *Bull. assoc. chimistes*, 1924–25, tome 42, p. 111–118.

Abstract in *Bull. assoc. chimistes*, 1923–24, tome 41, p. 178–179.

2367. Price, D. J. The starch dust explosion at Pekin, Illinois. (Western Society of Engineers, Journal, Chicago, 1924, v. 29, p. 305–320.) **VDA**

Gives description of plant and its manufacturing processes. Discusses conditions at time of the explosion, probable causes of the explosion and results of the explosion.

A briefer account with, however, more illustrations and photographs is in *Chemical and metallurgical engineering*, 1924, v. 30, p. 579–584.

Abstract in *Chem. abst.*, 1924, v. 18, p. 1911.

2368. Dust explosion causes havoc in large plant. (Safety engineering, New York, v. 47, Jan., 1924, p. 32–33.) **SIC**

Photograph and brief description of explosion in the plant of the Corn Products Refining Company at Pekin, Illinois.

2369. Grasselt, H. M. Starches as pasting materials. (Paper industry, Chicago, 1925, v. 7, p. 900–901.) † **VMPA**

Brief description of the preparation of starch pastes for use on paper pasting machines. — *Chem. abst.*

2370. Hansen, J., and W. Dietrich. Stärkegewinnung aus Kartoffeln ohne Verlust an Nährstoffen. (Zentralblatt für Agrikulturchemie, Biedermann's, Leipzig, 1925, Jahrg. 54, p. 216–218.)

Available in Library of the Department of Agriculture.

Abstract in *Chem. Zentr.*, 1925, Bd. 2, p. 619.

2371. Stirnus. Notwendigkeit einer Betriebskontrolle in Kartoffelstärkefabriken durch wiederholte Pülpeuntersuchungen. (Zeitschrift für Spiritusindustrie, Berlin, 1925, Jahrg. 48, p. 49.) †† **VTZA**

Abstract in *Chem. Zentr.*, 1925, Bd. 2, p. 862.

MANUFACTURE AND PREPARATION OF DEXTRIN

Bouillon-Lagrange. Note sur le pas- le l'amidon à l'état de muqueux. (Bul- le pharmacie, Paris, 1811, tome 3, p. 8.)

ilable in Library of Columbia College rmacy.

ract in *Allgemeine nordische Annalen der* Scherer's, St. Petersburg, 1820, Bd. 2, p. .

2373. Dinte. Note sur la conversion de l'amidon en une matière très-analogue à la gomme. (Bulletin de pharmacie, Paris, 1811, tome 3, p. 216.)

Available in Library of Columbia College of Pharmacy.

By slight torrefaction, starch may be rendered soluble in water. Suggests that this

Starches and Dextrins, continued.

Manufacture and Preparation of Dextrin, continued.

product be substituted for gum arabic in the manufacture of ink.

2374. Vauquelin. Expériences comparatives sur le sucre, la gomme et le sucre de lait. (Bulletin de pharmacie, Paris, 1811, tome 3, p. 49–58.)

Available in Library of Columbia College of Pharmacy.

Notes that starch may be transformed into a soluble material by heating.

2375. Dobereiner. Neue Versuche und Beobachtungen über das Stärkemehl und über andere verwandte Gegenstände. (Beiträge zur Chemie und Physik, Schweigger's, Nürnberg, 1813, Bd. 8, p. 207–220.) **PAA**

Studies properties of "torrified starch." Notes that the solution forms a white precipitate on addition of alcohol or baryta water.

Reprinted in *Annales de chimie,* série 1, tome 90, 1814, p. 29–42, *PAA.*

Abstract in *Allgemeine nordische Annalen der Chemie,* Scherer's, 1820, Bd. 2, p. 219.

2376. Lassaigne, J. L. Sur le changement qu'éprouve l'amidon pendant sa torréfaction. (Journal de pharmacie, Paris, 1819, tome 5, p. 300–302.) **WTA**

2377. Marcet, F. Note sur l'analyse de quelques substances végétales. (Annales de chimie et de physique, Paris, 1827, tome 36, p. 27–34.) **PAA**

Notes that starch, roasted to the point where it begins to give off vapors, acquires a brownish yellow color, becomes completely soluble in water and forms a solution similar to that of certain gums. A comparative analysis of this substance and ordinary starch shows a higher percent carbon in the latter.

2378. Schwarz, Eduard. Untersuchung einer neuen gummiartigen von den Herrn Ch. Lefebvre Chabat et C. zu Paris "Leicome" genannten Substanz. (Journal für praktische Chemie, Erdmann's, Leipzig, 1835, Bd. 6, p. 194–201.) **PKA**

2379. Rey, Lucian. Ueber die Fabrikation des Leicoms (gedörrten Kartoffelstärkemehls). (Polytechnisches Central Blatt, Leipzig, 1837, Jahrg. 2, p. 975–977.)

Available in Library of the Patent Office.

Reprinted in *Annalen der Pharmacie,* Liebig's, 1837, Bd. 24, p. 287–289, *PKA.*

2380. Gélis, A. Action de la chaleur sur les substances neutres organiques. (Académie des sciences, Comptes rendus, Paris, 1857, tome 45, p. 988–994.) ***EO**

Describes preparation and properties of "pyrodextrin" obtained by roasting starch.

Reprinted in further detail in *Annales de chimie et de physique,* 1858, série 3, tome 52, p. 388–404, *PAA.*

Abstract in *Chem. Centr.,* 1858, p. 163–165; *Jahresber. Chem.,* 1857, p. 494–495.

2381. Ficinus, O. Zur billigen Darstellung von reinem Dextrin. (Abgekürzt.) (Dingler's polytechnisches Journal, Augsburg, 1871, Bd. 201, p. 375.) **3–VA**

Potato starch is heated with dilute oxalic acid on a water bath until the mixture does not give an I coloration, $CaCO_3$ is added, the precipitate separated by filtration and the dextrin obtained by evaporation of the filtrate.

Abstract in *Wag. Jahr.,* 1871. Jahrg. 17, p. 563; *Chem. news,* 1871, v. 24, p. 181.

2382. Suessenguth, Otto. Das Dextrin und seine Darstellung. (Muster Zeitung, Berlin, 1871, Jahrg. 20, p. 177–179.) **†3–VLA**

2383. Sur la préparation de la dextrine. (Journal de pharmacie et de chimie, Paris, 1873, série 4, tome 18, p. 39.) **WTA**

Starch is heated with dilute oxalic acid on a water bath, neutralized with $CaCO_3$, filtered and the filtrate evaporated.

Abstract in *Bull. soc. chim. Paris,* 1873, nouv. série, tome 20, semestre 2, p. 321.

2384. Bondonneau, Lucien. De la dextrine. (Société chimique de Paris, 1874, Bulletin, nouv. série, tome 21, semestre 1, p. 50–53.) **PKA**

Describes method for purification of dextrin. Glucose is removed by boiling with $CuCl_2$ and NaOH.

Reprint in *Ding. poly. Jour.,* Bd. 112, p. 489–493.

Abstract in *Jour. chem. soc.,* 1875, v. 28, p. 247; *Wag. Jahr.,* 1874, Jahrg. 20, p. 659–660.

2385. —— De la dextrine. (Société chimique de Paris, Bulletin, 1874, nouv. série, tome 21, semestre 1, p. 149–151.) **PKA**

Finds a considerable variation in the acidity of commercial starches. Neutral starches were found to yield glucose when heated to 200° in an atmosphere containing water vapor. The presence of small quantities of acid increases the formation of glucose.

Abstract in *American chemist,* 1874–75, v. 5, p. 460.

2386. Anthon, E. Friedr. Ueber eine neue Methode der Dextrinbereitung. (Auszug.) (Dingler's polytechnisches Journal, Augsburg, 1875, Bd. 218, p. 182.) **3–VA**

By preparing dextrin directly from potatoes, seeks to avoid the loss ordinarily

es and Dextrins, continued.

facture and Preparation of Dextrin, ntinued.

panying the separation of starch from es. The potatoes are washed with acid or alkali, moistened with fluo- acid, dried and heated gradually to The apparatus is described.

abstracted in *Chem. Centr.*, 1875, p. 809; *oc. chim. Paris*, 1876, nouv. série, tome 25, e 1, p. 479; *Wag. Jahr.*, 1875, Jahrg. 21, p. *hresber. Chem.*, 1875, p. 1120.

Bondonneau, Lucien. Dextrine pure lt. (Société chimique de Paris, Bulle- 75, nouv. série, tome 23, semestre 1, 100.) **PKA**

nick starch paste is treated with malt t at 75° until almost all the starch has eared. The dextrin is separated from ilk of the sugars by alcohol and the ning sugars are removed by means of and NaOH. Describes properties of xtrin thus prepared.

ract in *Wag. Jahr.*, 1875, Jahrg. 21, p. 771; *er. Chem.*, 1875, p. 788.

Anthon, E. Friedr. Zur Dextrinbil- (Auszug.) (Dingler's polytechnisches l, Augsburg, 1876, Bd. 219, p. 183.) **3–VA**

abstracted in *Jahresber. Chem.*, 1876, p. 837.

—— Eine verbesserte Methode der nbereitung. (Auszug.) (Jahres-Be- ler chemischen Technologie, Wag- Leipzig, 1876, Jahrg. 22, p. 715–716.) **VOA**

Bereitung des Dextrins zu einer dem arabicum ähnlichen Masse. (Aus- Bayerisches Industrie- und Gewer- München, 1886, Jahrg. 18, p. 576.)

able in Library of Congress.

bstracted in *Chem. Centr.*, 1887, p. 264.

Klepatschewsky. Über die Darstel- les Dextrins. (Chemiker-Zeitung, 1888, Jahrg. 12, p. 1322.) †† **VOA**

o starch is mixed with dilute HCl, r two days and heated at 110° for s.

Ljubawin. Darstellung von Dextrin. g.) (Chemisches Central-Blatt, g and Leipzig, 1889, Bd. 1, p. 683.) **PKA**

o starch was mixed with dilute HCl d in the air for 2 days and then first on a waterbath and later for s at 110°.

erge, A. H. J. Umwandlung stärke- Substanzen in Stärkegummi oder Dextrin. (Auszug.) (Chemisches Central-blatt, Hamburg and Leipzig, 1891, Bd. 2, p. 296.) **PKA**

Dry starch is dextrinized by heating to 120°–190° in an atmosphere of SO_2 under pressure.

2394. Petit, Paul. Sur la formation des dextrines. (Académie des sciences, Comptes rendus, Paris, 1892, tome 114, p. 76–78.) ***EO**

Dextrins are prepared by heating starch moistened with a small quantity of nitric acid. The reducing power of the resulting mixture decreases with an increase in the period of heating.

Abstract in *Jour. soc. chem. ind.*, 1892, v. 11, p. 626; *Jour. chem. soc.*, 1892, v. 62, p. 577; *Chem. Centr.*, 1892, Bd. 1, p. 285; *Bull. soc. chim. Paris*, 1892, série 3, tome 7, semestre 2, p. 234–236; *Wag. Jahr.*, 1892, Jahrg. 38, p. 693.

2395. Saare, Oscar. Verfahren, um bei der Dextrinfabrikation den Endpunkt des Röst-prozesses festzustellen. (Zeitschrift für Spiritusindustrie, Berlin, 1900, N. F., Jahrg. 23, p. 53.)

Available in Library of the Patent Office.

The extent of roasting is gauged by the iodine coloration of the dextrin solution.

Abstract in *Bull. assoc. chimistes*, 1900–01, tome 18, p. 100.

2396. Lippmann, Friedrich. Die Beur-theilung und Untersuchung der Dextrine des Handels. (Zeitschrift für Spiritusindus-trie, Berlin, 1902, N. F., Jahrg. 25, p. 237–238, 249, 269–271, 291, 304–306, 316–317.)

Available in Library of the Patent Office.

Discusses in detail methods of dextrin manufacture, examination of physical and chemical properties, and direct tests of the suitability of dextrins for calico printing.

Also in *Bull. assoc. chimistes*, 1902–03, tome 20, p. 755–766, 822–835; *Wag. Jahr.*, 1902, Jahrg. 48, Abt. 2, p. 300.

Abstract in *Jour. soc. chem. ind.*, 1902, v. 21, p. 1101.

2397. Bauer, H. F. Effect of acidity and time in the roasting of dextrins. (International Congress of Applied Chemistry, 8th, Washington and New York, 1912, Original communications, v. 13, p. 9–19.) **PKR**

Corn starch is placed in pans holding about 15 lbs. each and put into kilns heated with steam coils at about 148°. Determines acidity, water soluble and insoluble, and reducing sugars at 65 different stages during the roasting. Experiments were carried out with untreated starch and with 1000 lb. portions treated with 4, 8, and 12 lbs. of 38° Beaume nitric acid.

Abstract in *Jour. soc. chem. ind.*, 1912, v. 31, p. 892; *Chem. abst.*, 1912, v. 6, p. 3034.

Starches and Dextrins, continued.

Manufacture and Preparation of Dextrin, continued.

2398. Freund, M. Über die Erzeugung von Appreturdextrin. (Färber-Zeitung, Berlin, 1912, Jahrg. 23, p. 286–287.) † **VLA**

Criticises article of Hofer (*entry 2399*).

2399. Hofer, A. Über die Erzeugung von Appreturdextrin. (Färber-Zeitung, Berlin, 1912, Jahrg. 23, p. 212–215.) † **VLA**

The starch is converted by HCl under a steam pressure of 2 to 3 atmospheres. Na_2O_2 and Na perborate may also be used in the preparation of dextrin.

Abstract in *Chem. abst.*, 1913, v. 7, p. 2136; *Chem. Zentr.*, 1912, Bd. 2, p. 970.

2400. —— Über die Erzeugung von Appreturdextrin. (Färber-Zeitung, Berlin, 1912, Jahrg. 23, p. 337–340.) † **VLA**

Reply to recent criticisms (*entries 2398 and 2402*).

2401. Parow, Edmund. Die Herstellung des Dextrins und seine Verwendung. (Zeitschrift für Spiritusindustrie, Berlin, 1912, N. F., Jahrg. 35, p. 507–508, 519–520.) †† **VTZA**

Principally a discussion of common processes for roasting starch.

Also in *Chemiker-Zeitung*, Cöthen, 1912, Jahrg. 36, p. 1085–1087; *Bull. assoc. chimistes*, 1912–13, tome 30, p. 263–268.

Abstract in *Jour. soc. chem. ind.*, 1912, v. 31, p. 1001.

2402. Triester Reisschälfabrika-A. G. Über die Erzeugung von Appreturdextrin. (Färber-Zeitung, Berlin, 1912, Jahrg. 23, p. 267.) † **VLA**

Discusses recent paper of Hofer (*entry 2399*).

Abstract in *Chem. abst.*, 1913, v. 7, p. 2137.

2403. Freiberger, M. Ein Verfahren zur Herstellung von Dextrinlösungen und über Wetterbeständigkeit von Dextrinappreturen. (Färben-Zeitung, Berlin, 1913, Jahrg. 24, p. 293–295.) † **VLA**

Discusses fully conditions affecting conversion of starch when suspensions are heated under pressure in the presence of acids or salts.

Abstract in *Chem. abst.*, 1914, v. 8, p. 1683; *Chem. Zentr.*, 1913, Bd. 2, p. 1626.

2404. Esch, Werner. Verarbeitung angefaulter Kartoffeln auf Dextrin und Glycerinersatz. (Zeitschrift für Spiritusindustrie, Berlin, 1915, Jahrg. 38, p. 259.) †† **VTZA**

Rotten potatoes are disintegrated and boiled with waste Stassfurt salt (kieserite), sufficient acid being liberated to effect the conversion of starch to dextrin. The mixture is neutralized with lime, filtered and the dextrin solution concentrated to the desired consistency. Adhesives and softeners for textile finishes may thus be prepared.

2405. Frary, F. C., and A. C. Dennis. Modification of starch by gaseous hydrochloric acid. (Journal of industrial and engineering chemistry, Easton, 1915, v. 7, p. 214–216.) **VOA**

Study action of dry HCl on powdered starch at varying temperatures and for varying lengths of time. Prepare dextrin of good color and adhesive power but find method unsuitable for production of soluble starch.

Abstract in *Jour. soc. chem. ind.*, 1915, v. 34, p. 440; *Jour. chem. soc.*, 1916, v. 110, part 1, p. 202; *Chem. Zentr.*, 1915, Bd. 1, p. 1257.

2406. Wardell, S. E. Specially designed roaster for starch gives gas first place as fuel for making dextrine. (American gas engineering journal, New York, 1917, v. 107, p. 561–562.) †† **VOA**

Gives photos of gas fired roasters and engine used in operating special paste making machinery.

2407. Morningstar, Joseph. The development of the American dextrin industry. (Color trade journal, New York, 1918, v 2, p. 67–69.) † **VOA**

Discusses manufacture of corn, potato and cassava dextrins and outlines a procedure for their examination.

2408. Yano, M. Preparation of dextrin. [Title translated.] (Kogyo-Kwagaku Zasshi [Journal of chemical industry], Tokyo, 1918, v. 21, p. 865–881.)

Available in Library of the Chemists' Club.

Sweet potato starch was moistened with dilute nitric acid, dried at 50° and then heated at 150° for 1 hour. The dextrin thus prepared is a suitable substitute for gum arabic. Hydrochloric, sulphuric and acetic acids did not give as good results as nitric acid.

Abstract in *Chem. abst.*, 1919, v. 13, p. 385.

2408A. Taine, Henry. Home-made dextrine adhesives. (Work, London, 1920, v. 59, p. 402–403.) †† **VA**

Recommends that powdered dextrin or "British gum" be sifted into water at 71° and allowed to stand until all the dextrin is in solution. Addition of alum is said to impart greater adhesive properties to the mixture. Phenol is recommended as a preservative.

hes and Dextrins, continued.
facture and Preparation of Dextrin, ontinued.

The **Discovery** of dextrin. (Pulp and magazine, Gardenvale, 1922, v. 20, p. 80.) **† VMPA**

cumstances surrounding the discovery ritish gum" in 1821.

Sprockhoff. Der Wärmewirkungs- der Dextrinröstanlagen. (Zeitschrift Spiritusindustrie, Berlin, 1922, Jahrg. 203.) **†† VTZA**

Darrah, W. A. Developments in in manufacture. (Chemical and metallurgical engineering, New York, 1924, v. 30, p. 825–828.) **VOA**

Discusses difficulties accompanying the usual processes. Details process in which the fuel combustion products serve as the heating medium. Illustrates the equipment with 4 figures. Advantages claimed are a lighter colored product, a reduction of operating time and a reduction in fuel consumption. Determines effect of temperature on dextrins produced by this method.

Abstract in *Chem. Zentr.*, 1924, Bd. 2, p. 1287.

2412. Utaka, Harukaze. Preparation of dextrin paste from starch. (Abstract.) (Chemical abstracts, Easton, 1925, v. 19, p. 2278.) **PKA**

STARCH FACTORY WASTE WATERS

Vauquelin. Sur les eaux sures es) des amidoniers. (Annales de e et de physique, Paris, 1800, série 1, 38, p. 248–270.) **PAA**

es the presence of alcohol, ammonia cetic acid. The latter is hardly present fficient quantities to justify its comal extraction. All three products are d by a fermentation process.

. Burggraf, de. Versuche, welche inem Landgute zu Bilbartault, Dennent de Seine et Marne, mit der Anng der Ablaufwasser einer Stärkeabrik als Dünger angestellt wurden. ler's polytechnisches Journal, Stutt- 1835, Bd. 56, p. 464–469.) **3–VA**

experiments with different fields and nt plants show that starch factory waters have considerable fertilizing .

Claubry, Gaultier de. Sur le conpour la découverte d'un moyen d'utiis eaux des féculeries et des amidon- (Société d'encouragement pour l'in- nationale, Bulletin, Paris, 1835, tome 576–577.) **VA**

ngle candidate has presented a men the subject. He first cites experi- showing that the liquors may be cted by passage over animal charcoal at the dissolved solids are not re- and give rise to the usual putrid a very short subsequent time. The ate deems this method impractical oposes another in which the coms of the waters are precipitated with solution and the resulting precipitate s a food or as a fertilizer.

n *Ding. poly. Jour.*, 1836, Bd. 60, p. 385.

2414. —— Rapport sur le concours relatif au moyen d'utiliser les eaux des féculeries et des amidonneries. (Société d'encouragement pour l'industrie nationale, Bulletin, Paris, 1836, année 35, p. 457–458.) **VA**

A sum of money is granted to M. Leduc who is working on a method for treating starch factory waste waters so that all putrescible matters will be precipitated and the resulting waters may be preserved for sometime without fermentation or alteration.

Abstract in *Ding. poly. Jour.*, 1835, Bd. 63, p. 465.

2415. Prix pour la découverte d'un procédé propre à utiliser les eaux des amidonneries et des féculeries. (Société d'encouragement pour l'industrie nationale, Bulletin, 1837, année 36, p. 474–475.) **VA**

One candidate recommends that the water be evaporated and a little sodium carbonate added. The committee, however, decides that the value of the products does not justify this cost. A second candidate maintains that treatment of the water by lime preserves the water against infection; the consideration of this by the committee is withheld. A third candidate proposes the use of alum or soda; the committee decides that this process does not answer the purpose.

Abstract in *Ding. poly. Jour.*, 1838, Bd. 68, p. 406.

2416. Claubry, Gaultier de. Rapport sur le concours pour un procédé propre à utiliser les eaux des féculeries et des amidonneries. (Société d'encouragement pour l'industrie nationale, Bulletin, 1841, année 40, p. 92–93.) **VA**

After further study of a method mentioned in *entry 2415* the committee finds that treatment of starch factory waste

Starches and Dextrins, continued.

Starch Factory Waste Waters, continued.

waters by lime, by an extract of tannin or by a mixture of the two produces the desired results. The precipitate may be used as fertilizer and the resulting water, which no longer gives a disagreeable odor, may be discharged without serious consequences. The latter is of great advantage to those plants which are not able to discharge directly into great bodies of water or to utilize the water for fertilizing land.

Abstract in *Ding. poly. Jour.*, 1841, Bd. 80, p. 399.

2416A. Dumas, and others. Sur l'eaux des féculeries. Par MM. Dumas, Thenard, Pelouze, d'Arcet et Payen. (Académie des sciences, Comptes rendus, Paris, 1844, tome 18, p. 326.) ***EO**

MM. Jarrin and Longcoté, by an ingenious system of irrigation, have taken care of the waste waters from a starch factory in Trappes, which had menaced the water supply of Versailles. A prize of two thousand francs is awarded.

Also in *Ding. poly. Jour.*, 1844, Bd. 92, p. 123–124.

2417. Vohl, H. Ueber die Bestandtheile und die Benutzung des in den Weizens Stärke-Fabriken abfallenden Wassers. (Dingler's polytechnisches Journal, Augsburg, 1866, Bd. 182, p. 325–329.) **3–VA**

Notes the presence of acetic, propionic, butyric, valeric, caproic, benzoic, formic, lactic, succinic and oxalic acids; alkyl amines and hydrogen sulphide are also shown to be present. By treating the water with milk of lime a coagulated precipitate is formed which settles rapidly; the supernatant water does not develop its usual odor and may be discharged into street gutters.

Abstract in *Wag. Jahr.*, 1866, Jahrg. 12, p. 373.

2418. Bouchardat, G. Sur les alcools contenus dans les eaux sucres des amidonniers et dans les produits de la fermentation butyrique du glucose. (Académie des sciences, Comptes rendus, Paris, 1874, tome 78, p. 1145–1147.) ***EO**

Investigates the acid wash waters from starch plants. Notes the presence of ethyl, propyl and butyl alcohols and their acetates.

Abstract in *Jour. chem. soc.*, 1874, v. 27, p. 883; *Jahresber. Chem.*, 1874, p. 950.

2419. Maercker, M. Ueber die beste Benutzung des Abflusswassers aus Kartoffelstärkefabriken. (Dingler's polytechnisches Journal, Augsburg, 1877, Bd. 225, p. 394–396.) **3–VA**

Gives analyses and recommends the use of waste waters for fertilizer purposes.

Abstract in *Jour. chem. soc.*, 1877, v. 32, p. 943; *Jahresber. Chem.*, 1877, p. 1176.

2420. Thenius, Georg. Über das Stärkewasser der Weisenstärkefabrikation und seine Verwerthung zur Darstellung von Milchsäure, Buttersäure und Buttersäureäther. (Chemiker-Zeitung, Cöthen, 1878, Jahrg. 2, p. 504.) **††VOA**

Reprinted in *Wag. Jahr.*, 1878, Jahrg. 24, p. 746–747.

2421. Schuetze, R. Über Sauerwasser in der Stärkefabrikation. (Landwirtschaftlichen Versuchs-Stationen, Berlin, 1887, Bd. 33, p. 197–201.)

Available in Library of the Department of Agriculture.

Determines evaporation residue and acid content of a number of samples. With an increasing acid content the evaporation residue diminishes. In order to best purify the waste waters and to recover the valuable nitrogenous materials which they contain, the water is heated to 60–70° and lime water stirred in until neutrality is reached. The precipitated material is very rich in protein and the supernatant liquid is clear and free from the usual odor.

Abstract in *Chem. Centr.*, 1886, p. 780; *Jahresber. Chem.*, 1886, p. 2146–2147.

2421A. Renk. Gutachten, betreffend die Verunreinigung der Werre bei Herford durch die Abwässer der H. 'schen Stärkefabrik in Salzuflen. (Arbeiten aus dem Kaiserlichen Gesundheitsamte, Berlin, 1889, Bd. 5, p. 209–246.) **SPC (Germany)**

Gives analyses of river waters above and below the point at which waste waters from a rice starch factory are run into the river. The same was done before and after the waste waters were subjected to a purification treatment.

2422. Schreib, H. Resultate der Abwasserreinigung auf der Stärkefabrik Salzuflen. (Zeitschrift für angewandte Chemie, Berlin, 1890, Jahrg. 3, p. 167–173, 542–545.)

Available in Library of the Chemists' Club.

Determines amounts of organic and inorganic materials before and after purification. Purification is best effected by treatment with lime.

2422A. Benedict, Hans. Die Abwässer der Fabriken. (Sammlung chemischer und chemisch-technischer Vorträge, Stuttgart, 1896, Bd. 1, p. 285–392.) **PKI**

Gives analyses of starch factory waters before and after filtration and treatment with lime.

2423. Saare, Oscar. Verwerthung bezw. Beseitigung von Brennerei-Abwässern.

hes and Dextrins, continued.

h Factory Waste Waters, continued.

schrift für Spiritusindustrie, Berlin, N. F., Jahrg. 21, p. 249–250.)

ailable in Library of the Patent Office. ntions that the waste waters from ı factories have been used with great ıtage for the irrigation of meadow land, ɔut in terraces on the Alsatian prin-

Seelos, H. Neue Versuche über die ıädlichmachung von Stärkefabrikwäs- (Zeitschrift für Hygiene und Infek- ɪrankheiten, Berlin, 1899, Bd. 31, p. 96.)

ailable in Library of the New York emy of Medicine.

termines nitrogen and oxidizable ma- s before and after treatment with such cals as lime, magnesium sulphate, sulphate, iron chloride, magnesium de and sodium silicate. Aëration hin- ɔurification and also the waste water ɪe easily purified when just beginning rify than when fresh.

ract in *Jour. soc. chem. ind.*, 1900, v. 19, p.

. **Weigelt,** C. Die fischereisich ımsten Abwässer der Industrie und ıssichten zu ihrer Beseitigung. (All- ne Fischereizeitung, München, 1901, Bd. 16, p. 151–153.) **VRA**

ste waters from starch factories are t those discussed.

Cronheim, W., and Paulus Schie- Die Schädigung der Fischerei in der durch die Stärkefabrik in Bentschen. chrift für Fischerei, Berlin, 1901– ɜd. 9, p. 81–109.) **VRA**

Schiemenz, Paulus. Die Stärke- in Bentschen und das Fischsterben Obra im Winter 1900–01. (Zeitschrift scherei, Berlin, 1902–03, Bd. 10, p.).) **VRA**

Rolants, E. Épuration biologique des résiduaires d'amidonnerie. (Revue ne, Paris, 1905, tome 27, p. 97–108.) **SPA**

h factory waste waters are treated ively by lime and by aerobic bac- Determines total matter, oxidizable and nitrogenous matter present be- d after each step. The combined nt is much more effective than the lime treatment and the resulting as the same composition as that of ater which has not been polluted. Two figures illustrating the installation of the process are given.

Abstract in *Bull. assoc. chimistes*, 1906–07, tome 24, p. 717.

2426. Sjollema, B. Produktieve zuivering van het afvalwater der aardappelmelfabrieken. (Chemisch weekblad, Amsterdam, 1907, jaarg. 4, p. 637–658.) **3–PKA**

A number of precipitants are investigated with a view to utilizing the N, P, and K containing materials in the water. The theory of the precipitation is discussed.

Abstract in *Chem. Zentr.*, 1907, Bd. 2, p. 1761.

2426A. Bartow, Edward. Investigation of manufacturing waste at Waukegan. (University of Illinois Bulletin, v. 6, no. 4, Water Survey series no. 6, Urbana, Ill., 1908, p. 64–78.) **VDLA**

Residents along the shore of Lake Michigan have complained of objectionable odors arising from the water residues of a starch factory. A detailed analysis is made of waters from the steeps, the starch cones, the gluten cones, the feed presses, and the condensers. The nutritive value of the solid constituents is determined. It is decided that plant equipment be installed for evaporating the steep waters and for treating the remaining waters with lime and iron sulphate.

2427. Zahn, C. Versuche über die Reinigungsmöglichkeit von Stärkefabrikabwässern durch das biologische Verfahren. (Mitteilungen aus der Königlichen Prüfungsanstalt für Wasserversorgung und Abwässerbeseitigung, Berlin, 1908, Heft 10, p. 42–74.)

Available in Library of the New York Academy of Medicine.

The waste waters from potato starch factories are purified by fine slag and sand. Notes fermentation in an acid medium and foulness in an alkaline medium.

Abstract in *Jour. soc. chem. ind.*, 1908, v. 27, p. 1219; *Chem. Zentr.*, 1908, Bd. 2, p. 1833.

2428. Sjostrom, Otto A. Treatment of waste water from a starch and glucose factory. (Journal of industrial and engineering chemistry, Easton, 1911, v. 3, p. 100–103.) **† VOA**

A short description of the process involved in the manufacture of starch and its by-products from corn is given. The composition of the different waste waters is given and also a description of the present plant for liming, settling, etc., of this waste.

2429. Girard, A. C. Studies on the waste waters of starch factories. (Abstract.) (Chemical abstracts, Easton, 1912, v. 6, p. 1801.) **PKA**

Starches and Dextrins, continued.

Starch Factory Waste Waters, continued.

2430. Hudig, J. Het rapport der commissie voor de reinigung van het afvalwater van stroocartonen aardappelmelfabrieken. (Chemisch weekblad, Amsterdam, 1913, jaarg. 10, p. 812–820.) **† 3–PKA**

The use of $FeSO_4$ was the most effective, although the cost was prohibitive. The tank effluent method was recommended.

Abstract in *Chem. abst.*, 1914, v. 8, p. 2206.

2431. Rohland. Das Kolloidtonreinigungsverfahren für die Abwässer der Stärke-, Dextrinfabriken, usw. (Zeitschrift für Spiritusindustrie, Berlin, 1914, N. F., Jahrg. 37, p. 58.) **†† VTZA**

2432. Roth, E. The disposal of waste liquors from industrial plants. (Abstract.) (Chemical abstracts, Easton, 1916, v. 10, p. 654.) **PKA**

Includes composition and disposal of starch factory wastes.

2433. Halmi, J. Waste waters from potato starch factories in Hungary, their noxious action and purification. (Abstract.) (Society of Chemical Industry, Journal, London, 1916, v. 35, p. 1126.) **VOA**

The quantity, composition and action of waste waters from the manufacture of potato starch are discussed, together with mechanical, chemical and biological treatment processes.

Also abstracted in *Chem. abst.*, 1917, v. 11, p. 2518.

2434. Parow, Edmund. Der Abwasserwert der Kartoffelstärkeindustrie. (Zeitschrift für Spiritusindustrie, Berlin, 1923, Jahrg. 46, p. 98.) **†† VTZA**

Determines amount of N, P and K in the water. The fertilizer value of the water from 100 zehnter of potatoes is equal approximately to half that taken from the soil by the same amount of potatoes.

Abstract in *Chem. Zentr.*, 1923, Bd. 4, p. 295.

INDUSTRIAL APPLICATIONS OF STARCH AND DEXTRIN

2435. Neue Arzneimittel. — Arrowroot. (Allgemeine nordische Annalen der Chemie, St. Petersburg, 1820, Bd. 3, p. 98–101.) **PKA**

Discusses history, preparation, uses, and importance of arrowroot starch.

2436. Mérimée. Instruction sur le collage du papier à la cuve. (Société d'encouragement pour l'industrie nationale, Bulletin, Paris, 1827, année 26, p. 118–121.) **VA**

Recommends the use of alkalis in the preparation of starch sizes.

2436A. Claubry, Gaultier de. Sur le concours pour la découverte d'un procédé propre à procurer à la fécule la propriété de donner un pain qui lève comme celui de farine de froment. (Société d'encouragement pour l'industrie nationale, Bulletin, Paris, 1835, tome 34, p. 577–579.) **VA**

2437. Velpeau. Substitution de la dextrine à l'amidon comme substance consolidante pour les bandages inamovibles, dans le traitement des fractures. (Académie des sciences, Comptes rendus, Paris, 1838, tome 6, p. 500.) *** EO**

2438. Silvestre. Sur l'emploi du vernis de dextrine pour la préservation des images photogéniques. (Académie des sciences, Comptes rendus, Paris, 1839, tome 9, p. 295.) *** EO**

2439. Ventzke, K. Ueber die verschiedenen Zuckerarten und verwandte Verbindungen, in Beziehung auf ihr optisches Verhalten und dessen praktische Anwendung. (Journal für praktische Chemie, Leipzig, 1842, Bd. 25, p. 65–84.) **PKA**

Starch, dextrin, and starch sugar are among substances investigated.

2440. Andrew's Verfahren das Kartoffelmehl zum Schlichten des Weberzettels anzuwenden. (Dingler's polytechnisches Journal, Stuttgart, 1843, Bd. 87, p. 396–397.) **3–VA**

2441. Denzer, L. Über Stärkeglanz und Glanzstärke. (Abgekürzt.) (Dingler's polytechnisches Journal, Stuttgart, 1852, Bd. 126, p. 435.) **3–VA**

Also in *Polytechnisches Notizblatt*, 1853, Jahrg. 8, p. 110–111, *VA*.

2442. Benner, Ch. Über Prüfung der gerösteten Stärke (Leiokom, künstliches Gummi) als Verdickungsmittel der Beizen beim Zeugdruck. (Auszug.) (Polytechnisches Notizblatt, Frankfurt, 1855, Jahrg. 10, p. 45–46.) **VA**

2443. Davanne. Étude générale des épruves photographiques positives. (Société française de photographie, Bulletin, Paris, 1858, tome 4, p. 71–79, 117–131.)

Available in Library of the Patent Office.

Includes brief discussion regarding the use of starch sizes for photographic paper.

hes and Dextrins, continued.

trial Applications of Starch and Dex-in, continued.

Thibierge, and Romilly. Amidon de n d'Inde. (Société industrielle de Mul-, Bulletin, 1858, tome 59, p. 478–480.) **VA**

e starch of horse chestnuts furnishes a which is more transparent than that eat or potatoes but possesses the dis-tage that it "thins" more rapidly. A er account is given of sizing experi-s on various textiles.

densed in *Société chimique de Paris, Répertoire mie appliquée,* 1858–59, tome 1, p. 504–505; *Jahr.,* 1860, Jahrg. 6, p. 337; *Polytechnisches latt,* 1860, Jahrg. 15, p. 199.

Liesegang. Papier encollé à l'arrow-(Société chimique de Paris, Répertoire imie appliquée, 1860, tome 2, p. 375– **PKA**

the sizing of photographic paper pre-s a solution of NaCl and arrowroot ning a small amount of citric acid.

Die **Darstellung** pulverförmiger Ani-en. (Polytechnisches Notizblatt, , 1866, Jahrg. 21, p. 204–205.) † **VA**

dye is first adsorbed on starch.

Forster, R. Ueber die Dextrinsorten Handels. (Dingler's polytechnisches l, Augsburg, 1868, Bd. 190, p. 133– **3–VA**

ract in *Wag. Jahr.,* 1868, Jahrg. 14, p. 464– *em. Centr.,* 1869, p. 109–111.

Thiel, C. Über die Produkte und ate der Stärkemehl-Fabrikation auf ariser Ausstellung des Jahres 1867. kürzt.) (Jahres-Bericht über die chen Technologie, Wagner's, Leip-58, Jahrg. 14, p. 457.) **VOA**

Wiesner, Julius. Untersuchung des gsvermögens einiger Stärkesorten. ingler's polytechnisches Journal, urg, 1868, Bd. 190, p. 154–157.) **3–VA**

ribes a large number of sizes and es their relative sizing values.

act in *Bull. soc. chim. Paris,* 1869, nouv. ne 11, semestre 1, p. 439; *Wag. Jahr.,* 1868, , p. 459–462.

Artus. Über gefärbtes Stärkemehl, ndere über die Bereitung und An-g der Carmoisinstärke. (Polytech-Notizblatt, Mainz, 1870, Jahrg. 25, † **VA**

Reimann, M. Eine neue Methode estigung der Anilinfarben auf Baum-wolle. (Dingler's polytechnisches Journal, Augsburg, 1871, Bd. 202, p. 380–382.) **3–VA**

Takes advantage of the fact that aniline colors are absorbed by starch.

Abstract in *Bull. soc. chim. Paris,* 1871, nouv. série, tome 16, semestre 2, p. 384; *Jahresber. Chem.,* 1871, p. 1104.

2452. Scherzer, K. von. Gefärbte Stärke. (Jahres-Bericht über die Leistungen der chemischen Technologie, Wagner's, Leipzig, 1872, Jahrg. 17, p. 558–559.) **PKA**

2453. Blumenwitz, Julius. Die Stärke und ihre Nebenproducte auf der Weltausstellung. (Practische Maschinen-Constructeur, Uhland's, Leipzig, 1874, Jahrg. 7, p. 173–174.)

Available in Library of the Patent Office.

2454. Gintl, W. Friedr. Feuersichere Stärke. (Deutsche Industriezeitung, Chemnitz, 1874, p. 375–376.)

Available in Library of the Patent Office. Various salts are used.

Abstract in *Wag. Jahr.,* 1874, Jahrg. 20, p. 908.

2455. —— Stärkefabrikation und Verwerthung der Nebenproducte derselben. (Dingler's polytechnisches Journal, Augsburg, 1874, Bd. 214, p. 221–226.) **3–VA**

Reports on sizing materials exhibited at the Vienna exposition.

Abstract in *Jahresber. Chem.,* 1874, p. 1206–1207.

2456. Hager, H. Ueber Dextrin und die trockenen narkotischen Extracte der deutschen Reichspharmakopöe. (Pharmaceutische Centralhalle, Berlin, 1874, Jahrg. 15, p. 130–131.)

Available in Library of Columbia College of Pharmacy.

Abstract in *Chem. Centr.,* 1874, p. 393.

2457. Smith, Watson. Report on Section 3 of the Manchester Royal Jubilee Exhibition. Group 14. (Society of Chemical Industry, Journal, London, 1877, v. 6, p. 769–770.) **VOA**

The exhibit of "sugar, starches, gums, etc."

2458. Boettger, R. Ueber Verwendung des Stärkezuckers (Glykose) in der praktischen Chemie. (Auszug.) (Chemisches Central-Blatt, Leipzig, 1879, p. 733.) **PKA**

Describes technical utilization of starch sugars as reducing agents. Ag, Pt and Cu_2O are prepared by reduction of their salts.

Starches and Dextrins, continued.

Industrial Applications of Starch and Dextrin, continued.

2459. Hager, H. Stärkepräparate und Waschmittel für die Hauswirthschaft. (Pharmaceutisches Centralhalle, Berlin, 1879, Jahrg. 20, p. 148–149.)

Available in Library of Columbia College of Pharmacy.

Describes two starch preparations, one containing borax and the other stearic acid.

Abstract in *Chem. Centr.*, 1879, p. 731.

2460. Abadie, Aug. Künstlicher Leim für die Papierfabrication. (Auszug.) (Chemisches Central-Blatt, Leipzig, 1880, p. 221.) **PKA**

Uses a starch treated with $MgCl_2$.

2461. Boettger, R. Ueber das Reductionsvermögen des Dextrins. (Auszug.) (Chemisches Central-Blatt, Leipzig, 1880, p. 719.) **PKA**

Dextrins are used for the preparation of cuprous oxide and metallic silver by reduction of copper sulphate and ammoniacal silver nitrate solutions respectively.

Also abstracted in *Jahresber. Chem.*, 1880, p. 1007.

2462. Neues Appreturmittel. (Auszug.) (Chemiker-Zeitung, Cöthen, 1880, Jahrg. 4, p. 227.) **† VOA**

Describes a starch treated with $MgCl_2$.

2463. Richter, G. M. Ueber das Zubrennen von Stärke zu Kartoffeln. (Zeitschrift für Spiritusindustrie, Berlin, 1880, N. F., Jahrg. 3, p. 121–123.)

Available in Library of the Patent Office.

Recommends that small amounts of starch be used in the mashing of spoiled potatoes.

2464. Seure, J. Sur un procédé de conservation des viandes, au moyen de la dextrine. (Académie des sciences, Comptes rendus, Paris, 1880, tome 91, p. 945.) *** EO**

Abstract in *Jahresber. Chem.*, 1880, p. 1344.

2465. Fluessiger Stärkeglanz. (Auszug.) (Chemisches Central-Blatt, Leipzig, 1881, p. 144.) **PKA**

The starching preparation described contains spermaceti, gum arabic, borax, glycerin, water and starch mucilage.

2466. Chicandard, G. Sur la fermentation panaire. (Académie des sciences, Comptes rendus, Paris, 1883, tome 96, p. 1585–1588.) *** EO**

For the particular process of breadmaking described, gives evidence that the conversion of starch is effected by heat alone and not by the diastases existing in the flour.

Abstract in *Jour. chem. soc.*, 1883, v. 44, p. 1179; *Chem. Centr.*, 1883, p. 439–440.

2467. —— Sur la fermentation panaire. (Académie des sciences, Comptes rendus, Paris, 1883, tome 97, p. 616–617.) *** EO**

Defending an earlier paper (*entry 2466*), holds that the contradictory observations of Marcano (*entry 689*) are due to a difference of materials used in the two processes.

2468. Fireproof starch. (Summary.) (Scientific American, New York, 1884, new series, v. 50, p. 73.) **†† VA**

Ammonium magnesium phosphate and sodium tungstate are incorporated with wheat starch.

2469. Breuer, O. Sur un moyen pour remplacer la terre de pipe dans l'impression sur tissu. (Société industrielle de Mulhouse, Bulletin, 1885, tome 55, p. 322–323.) **VA**

Starch paste is a perfect substitute for China clay for printing in reserve for indigo blue, and for many other purposes, especially for printing upon silk.

Abstract in *Jour. soc. chem. ind.*, 1885, v. 4, p. 493.

2470. Dieterich, Eugen. Packleim, Dextrin-Leim zum Aufkleben von Adressen, Signaturen, etc. (Pharmaceutisches Centralhalle, Berlin, 1887, Jahrg. 28, p. 162–163.)

Available in Library of Columbia College of Pharmacy.

Abstract in *Chem. Centr.*, 1887, p. 677.

2471. Versammlung der Stärke-Interessenten. (Chemiker-Zeitung, Cöthen, 1890, Jahrg. 14, p. 305.) **†† VOA**

Discusses the grinding of potatoes and the feasibility of adding starch to the rye and wheaten flour used in bread making.

Abstract in *Jour. soc. chem. ind.*, 1890, v. 9, p. 526.

2472. Delbrueck, and N. Zuntz. Über die Verwendung der Stärke (Kartoffelstärke) zu Backzwecken. (Auszug.) (Chemisches Central-Blatt, Hamburg and Leipzig, 1891, Bd. 1, p. 560.) **PKA**

(a) Wie bewährt sich das Verbacken des Stärkemehls mit Roggen- oder Weizenmehl? (b) Wie stellt sich der Nährwert der mit Stärkezusatz bereiteten Ware?

2473. Zuntz, N., and Ad. Magnus-Levy. Beiträge zur Kenntniss der Verdaulichkeit und des Nährwerthes des Brodes. (Archiv

hes and Dextrins, continued.

strial Applications of Starch and Dex-rin, continued.

die gesammte Physiologie, Pflüger's, 1, 1891, Bd. 49, p. 438–460.) **QCA**

rch-meal may, up to a certain limit, dded to bread without rendering it in-tible.

tract in *Jour. soc. chem. ind.*, 1893, v. 12, p.

Saare, Oscar. Über die Verwendung Beurtheilung von Kartoffelstärke und offelmehl. (Zeitschrift für angewandte nie, Berlin, 1897, p. 291–293.) **PKA**

ndensed in *Wag. Jahr.*, 1897, Jahrg. 43, p. 786–

Borntraeger, Hugo. Einfache Dar-ng von Klebeleim aus Knochenleim. terreichische Chemiker-Zeitung, Wien, Jahrg. 3, p. 515–516.)

ailable in Library of the Department of culture.

tes that the adhesive power of dex-is increased by treatment with H_2O_2.

tract in *Chem. Centr.*, 1900, Bd. 2, p. 1218.

Fuerth. Ueber Appreturmittel und Verwendung. (Färber-Zeitung, Ber-01, p. 1–6.) **† VLA**

cusses dextrins and various starch ications as finishing materials.

tract in *Jour. soc. chem. ind.*, 1901, v. 20, p.

Saare, Oscar. Appreturmittel aus e und Stärkefabrikaten. (Zeitschrift piritusindustrie, Berlin, 1901, N. F., 24, p. 451.)

ilable in Library of the Patent Office.

cusses the various starch glazes pre-by the aid of alkalis and soda, those ning calcium and magnesium chlo-and also the group of soluble starches.

ract in *Jour. soc. chem. ind.*, 1901, v. 20, p.

Andés, Louis E. Über Neuerungen m Gebiete der Fabrikation von Klebe-n. (Chemiker-Zeitung, Cöthen, 1903, 27, p. 190–191.) **†† VOA**

udes brief discussion on starch ad-s.

Krueger, Fritz. La colle et les ma-adhésives. (Moniteur scientifique du r Quesneville, Paris, 1905, tome 63, 823.) **OA**

udes detailed description of prepara-roperties, uses and testing methods rch, soluble starch and dextrin ad-s.

act in *Chem. Centr.*, 1905, Bd. 2, p. 1697.

2480. Starches, scar pastes and colourings. (Abstract.) (Society of Dyers and Colourists, Journal, Bradford, 1906, v. 22, p. 105.) **† VLA**

The mixtures are used for finishing such leathers as sole leather and the grain side of wax kips.

2481. Lutz, Alfred. Welchen Einfluss übt die Mitarbeit von Stärke auf die Papier-eigenschaften aus? (Papier-Zeitung, Berlin, 1908, Jahrg. 33, p. 314–316, 1022–1024, 1062–1063, 1098–1100, 1142–1143.) **†† 3–VMA**

The effect of engine-sizing and tub-sizing with starch in various forms is studied in considerable detail, and the results tabulated. Methods for determining the retention of starch are described.

Abstract in *Chem. abst.*, 1908, v. 2, p. 1488, 1885.

2482. Gebhard, Kurt. Wirkung des Lichtes auf Farbstoffsysteme. 2. (Zeitschrift für angewandte Chemie, Leipzig, 1909, Jahrg. 22, p. 2484–2489.) **PKA**

Notes that starch accelerates the photochemical decolorization of various dyes whereas dextrins retard this action. Suggests that dextrins be substituted for starch in dyeing and printing.

Abstract in *Bull. soc. chim. France*, 1910, série 4, tome 8, p. 297–299.

2483. Hutchinson, H. B., and F. S. Marr. Changes induced by the addition of carbohydrates to soils. (International Congress of Applied Chemistry, 7th, London, 1909, [Transactions], section 7, p. 37–41.) **PKR**

Application of starch and sucrose at the rate of 1 ton per acre showed an average reduction in grain yield of 17% and 31%, respectively. Soils containing 2% of starch and of dextrose formed, in one month, 9.6% and 42% of carbon dioxide, respectively.

Abstract in *Jour. chem. soc.*, 1911, v. 100, part 2, p. 430.

2484. Virneisel, Ferd. Ueber Stärke und Zellulose in der Papierfabrikation. (Papier-Fabrikant, Berlin, 1909, Jahrg. 7, p. 335–338.)

Available in Library of the Department of Agriculture.

General description of two starches.

Abstract in *Jour. soc. chem. ind.*, 1909, v. 28, p. 439.

2485. Hastaden, E. Können Dextrinlösungen die Farben trüben und harte Appreturen geben. (Färber-Zeitung, Berlin, 1910, Jahrg. 21, p. 335–337.) **† VLA**

Declares the hard finishes given by dextrin are due to the presence of unconverted

Starches and Dextrins, continued.

Industrial Applications of Starch and Dextrin, continued.

starch and that starch treated with "Diastafor" is essentially the same as dextrin.

Abstract in *Jour. soc. chem. ind.*, 1910, v. 29, p. 1246.

2486. Jarman, A. J. Fireproof starch. (Scientific American, New York, 1910, v. 103, p. 364–365.) †† **VA**

Sodium hyposulphite, table salt, borax and talcum powder are incorporated with starch. Fabrics are rendered fireproof when starched by this preparation.

2487. Starch for use in paper making. (Paper, New York, v. 1, Nov. 30, 1910, p. 11, 19.)

Available in Library of the Department of Agriculture.

2488. Traquair, John. Function of starch in the manufacture of paper. (Society of Chemical Industry, Journal, London, 1910, v. 29, p. 323–329.) **VOA**

Cites evidence that European papers of the 8th to 14th century were exclusively starch sized and that a number of Chinese papers at least 10 centuries old were sized entirely with starch. A number of these were in an excellent state of preservation and could easily be written upon with ink. Arabian and Roman paper or papyrus sizing is described briefly. Discusses function of starch in engine sizing when using 4 classes of paper. Gives results obtained by Lutz (*entry 2481*) when determining retention of various starches. Outlines in detail the use of "feculose" in tub sizing.

Reprinted in *Paper*, New York, 1911, v. 5, no. 5, p. 9–11, 30, no. 7, p. 17–18.

Abstracted in *Chem. abst.*, 1911, v. 5, p. 588; *Bull. soc. chim. France*, 1910, série 4, tome 8, p. 1150.

2489. Foth, G. Die Verarbeitung der Pülpe auf Spiritus. (Zeitschrift für Spiritusindustrie, Berlin, 1911, N. F., Jahrg. 34, p. 25–26.) †† **VTZA**

Has experimented with potato pulp added to the mash before fermentation and also when mixed with the distillery residues.

Abstract in *Jour. soc. chem. ind.*, 1911, v. 30, p. 147.

2490. Preuss, E. Die Ausgiebigkeit der technischen Dextrine als Klebe- und Appreturmittel und Erzielung derselben im Fabrikbetriebe. (Zeitschrift für Spiritusindustrie, Berlin, 1911, Jahrg. 34, p. 291.) †† **VTZA**

Abstract in *Chem. abst.*, 1912, v. 6, p. 940; *Chem. Zentr.*, 1911, Bd. 2, p. 312.

2491. Trotman, S. R. Damages and discolorations caused in finishing lace goods. (Abstract.) (Society of Chemical Industry, Journal, London, 1911, v. 30, p. 1294–1295.) **VOA**

Includes discussion on loss of color or tendering due to the use of faulty starch.

2492. Wiesner, J. von. The history of paper. (Papier-Fabrikant, Berlin, 1911, Jahrg. 9, p. 886–887.)

Available in Library of the Department of Agriculture.

In both French and English.

The Chinese are credited as being the first to use paper sizes; first a jelly from lichens was used and then starch paste was introduced.

2493. Wrede, Hans. The question of sizing paper. (Paper, New York, v. 5, Nov. 1, 1911, p. 23–24, 30.) † **VMPA**

The use of starch is discussed. Gives 2 plates illustrating the granular arrangement taken by the sizing.

2494. Déri, Wilhelm. Das Dextrin als Appreturmittel. (Färber-Zeitung, Berlin, 1912, Jahrg. 23, p. 61–62.) † **VLA**

Short description of the preparation of various sizing dextrins from starch.

2495. Kobert, R. Wann hat die Stärkeappretur des Papiers aufgehort. (Papier-Fabrikant, Berlin, 1912, Jahrg. 10, Fest- und Auslandsheft, p. 87–91.)

Available in Library of the Department of Agriculture.

One hundred and forty-eight papers dating from the 14th to the 17th century were tested for starch sizing and of these only 8 were found to contain starch. The tests were made with I-KI solution which had been acidified with HCl. The tests show that while animal sizing was introduced at the end of the 13th century, the pasting of paper did not cease entirely but is still met with in isolated cases two centuries later.

Abstract in *Chem. abst.*, 1913, v. 7, p. 2855; *Chem. Zentr.*, 1912, Bd. 2, p. 1706.

2496. Margival, F. Le collage et les colles amylacées. (Chimiste, Berchem-Ste-Agathe, Belgium, 1912, v. 3, p. 157–159, 186–189.)

Available in Library of the Chemists' Club.

A comprehensive description of various well-known amylaceous adhesive materials, their production and uses, under the headings: (1) The art of gluing, (2) Adhesives made from starch and flour, (3) The dextrins, (4) Etherified and variously modified starches. — *Chem. abst.*

hes and Dextrins, continued.

strial Applications of Starch and Dex-rin, continued.

Wrede, Hans. Combinierte Mineral-eleimung für Druckpapier. (Interna-l Congress of Applied Chemistry, 8th, ington and New York, 1912, Original unications, v. 26, p. 31–32.) **PKR**

scusses a combination of starch with r glass or other water soluble silicate.

—— Die Anwendung von Mais-e zu Schreibpapier in den Vereinigten en von America. (Wochenblatt für erfabrikation, Württemberg, 1912, g. 43, p. 1004–1006.)

ailable in Library of the Department of culture.

rch swollen in about 4 parts of water ° and mixed with a solution of sodium te acts as a valuable sizing agent for ng paper and improves the strength, nd color. The retention of starch is %.— *Chem. abst.*

densed in *Paper,* v. 6, March 13, 1912, p. 15–; *Jour. soc. chem. ind.,* 1912, v. 31, p. 381.

—— Maisstärke als Leimstoff für ibpapier. (Papier-Zeitung, Berlin, Jahrg. 37, Teil 1, p. 1033.)

ailable in Library of the Department of ulture.

Ermen, W. F. A. The materials used ing. (Posselt's textile journal, Phila-a, 1913, v. 12, p. 8, 36.) **† VLA**

ls with starches and other agglutí-

Fues, Ernest. Die Anwendung von in der Papierfabrikation. (Wochen-für Papierfabrikation, Württemburg, ahrg. 44, p. 1223–1224.) **VMPA**

usses recent article of Wrede.

Parow, Edmund. Über die Klebfäh-verschiedener Kartoffelstärkemehle. hrift für Spiritusindustrie, Berlin, ahrg. 36, p. 229.) **†† VTZA**

s that adhesive power varies with thod of drying, the size of the gran-d the conditions of the soil.

act in *Wag. Jahr.,* 1913, Jahrg. 59, Abt. 2,

Richard, D. Starches and starch s in sizing. (Paper, New York, v. 7, 1913, p. 19–20.) **† VMPA**

lods of evaluation for use as paper

2504. Wrede, Hans. Die Anwendung von Maisstärken in der Papierfabrikation. (Wochenblatt für Papierfabrikation, Württemberg, 1913, Jahrg. 44, p. 835–841.) **† VMPA**

Describes use of starch as a strengthener, as a filler and as an adhesive. Gives photomicrographs of various starches.

Abstract in *Chem. abst.,* 1913, v. 7, p. 2114.

2505. —— Die Anwendung von Stärke in der Papierfabrikation. (Wochenblatt für Papierfabrikation, Württemburg, 1913, Jahrg. 44, p. 2077–2078.) **† VMPA**

Reply to Fues (*entry 2501*).

2506. —— Die Anwendung von Maisstärken in der Papierfabrikation. (Papier-Zeitung, Berlin, 1913, Jahrg. 38, Teil 1, p. 995–996, 1027–1029.)

Available in Library of the Department of Agriculture.

2507. Chaplet, A. Les colles et autres adhésifs à base de matières amylacées. (Revue de chimie industrielle, 1914–16, Paris, année 25, p. 12–15, 37–39.) **† VOA**

Gives 34 formulas of widely varying application.

2508. Demain. Starching and blueing cotton piece goods. (Textile world record, Boston, 1914, v. 47, p. 225–226.) **VLA**

2509. Bean, Percy. Various methods of modifying starch for sizing purposes. (Textile Institute, Journal, Manchester, 1915, v. 6, p. 223–230.)

Available in Library of the Chemists' Club.

Discusses fully the use of wheat flour, potato farina, sago, tapioca and maize starches for sizing of cotton warps.

Condensed in *Textile world journal,* 1915, v. 51, p. 291, 295–296.

Abstract in *Jour. soc. chem. ind.,* 1916, v. 35, p. 107; *Chem. abst.,* 1916, v. 10, p. 392.

2510. Ostwald, Wilhelm, and A. Riedel. Versuche zur Herstellung eines porenreichen Stärkegebacks. (Kolloid-Zeitschrift, Dresden and Leipzig, 1915, Bd. 17, p. 12–14.) **PKA**

At this period bread from starch was a military necessity. Gives directions for preparation of a suitable loaf.

Abstract in *Chem. abst.,* 1915, v. 9, p. 3307.

2511. Ruef, E. Sparen an der Stärkeprodukten. (Zeitschrift für die gesamte Textil-Industrie, Leipzig, 1915, Jahrg. 18, p. 140.) **†† VLA**

Glue may be used in place of starch in sizing and finishing, and 2 parts of a mix-

Starches and Dextrins, continued.

Industrial Applications of Starch and Dextrin, continued.

ture of potato starch and "Diastafor" instead of 3 parts of dextrin. The harsh feel of glue finishes may be improved by the addition of Iceland moss. — *Chem. abst.*

2512. Starch for sizing purposes. (Textile world journal, New York, 1915, v. 51, p. 291–297.) † **VLA**

2513. Jalowetz, Ed. Potato starch as malt adjunct in the production of beer and its working in practice. (Abstract.) (Chemical abstracts, Easton, 1916, v. 10, p. 798.) **PKA**

2514. Koudelka, V. Die Verwendung von Kartoffelstärke oder Kartoffelstärkemehl als teilweises Malzersatzmittel. (Allgemeine Zeitschrift für Bierbrauerei und Malzfabrikation, Wien, 1916, Jahrg. 44, p. 71–74.) † **VTRA**

Abstract in *Jour. soc. chem. ind.*, 1917, v. 36, p. 399.

2515. MacNider, G. M. Textile starches; properties useful to mills. Variety of starches produced to meet widely varying needs. (Textile world journal, New York, 1916, v. 51, p. 5019, 5021; v. 52, p. 411–412, 417.) **VLA**

Discusses use of potato, sago, wheat, rice and corn starches. Gives microphotographs.

2516. The **Strength** of starch. (Textile world journal, New York, 1916, v. 51, p. 353, 357, 359.) † **VLA**

General discussion on relation of viscosity to skeletal form of the granules. Microphotographs.

2517. Securing full service from starch in sizing. (Textile world journal, New York, 1916, v. 51, p. 585, 589.) † **VLA**

Gives details of yarn sizing and an illustration of equipment for handling size solutions.

2518. Koenig, R. Starch substitutes in Germany developed since the war. (Abstract.) (Oil, paint and drug reporter, New York, 1917, v. 92, no. 18, p. 18.) † **VOA**

Mixtures containing gelatin, chalk, glue, etc., are used.

Abstract in *Chem. abst.*, 1917, v. 11, p. 3460; *Chem. Zentr.*, 1919, Bd. 1, p. 181; *Oil and colour trade journal*, 1917, v. 52, p. 985; *Scientific American*, 1917, v. 117, p. 373; *Journal of industrial and engineering chemistry*, 1917, v. 9, p. 1143.

2519. Modified starches. (Posselt's textile journal, Philadelphia, June, 1917, v. 21, p. 5.) † **VLA**

Prepared by treating with dilute acid.

2520. Sizing of cotton. (Posselt's textile journal, Philadelphia, 1917, v. 20, p. 121.) † **VLA**

2521. Dilution of starch mixing. (Textile world journal, New York, 1917, v. 52, p. 2863.) † **VLA**

2522. Stiffening skirt belting. (Textile world journal, New York, 1917, v. 53, p. 2525.) † **VLA**

Recommends the use of soluble starch in place of yellow dextrin.

2523. Cathcart, William R. Corn starch in the textile industry. (Textile colorist, New York, 1918, v. 40, p. 339–342.) †† **VLA**

Does not agree with some of the statements recently made by Moore. Objections to corn starch have been due principally to the fact that the form first employed was pearl starch, which is the crudest of corn starches. The modified corn starches now manufactured are as suitable as potato starch and possess added advantages in that greater uniformity can be obtained and in that their viscosity is not markedly affected by boiling. The special advantages of thin boiling starches have been demonstrated quantitatively, both when sizing for textile strength or weight. These results are due to the greater effect of capillary attraction and to a greater absorption between the interspaces of the fibers.

Reprinted in *Textile world journal*, 1918, v. 54, p. 401–403, 2298–2304.

2524. Composition of the various adhesives in the industries. (Abstract.) (Chemical abstracts, Easton, 1918, v. 12, p. 1815.) **PKA**

The formulas and recipes given include those using starch and dextrins.

2525. Petit, Paul. Brewing materials. (Abstract.) (Society of Chemical Industry, Journal, London, 1918, v. 37, p. 102A.) **VOA**

The use of potato-starch, manioc, chitmalt and raw barley as malt adjuncts is discussed.

Also abstracted in *Chem. abst.*, 1918, v. 12, p. 1680.

2526. Pickard, R. H. Cotton sizing — an empirical process. (Society of Chemical Industry, Journal, London, 1918, v. 37, p. 26–27R.) **VOA**

Brief general discussion. The substitution of maize starch for wheat starch is mentioned.

2527. Starches. (Posselt's textile journal, Philadelphia, 1918, v. 22, p. 95.) † **VLA**

hes and Dextrins, continued.

strial Applications of Starch and Dex-rin, continued.

Reinke, Otto. Lösliche Stärke zum chestärken. (Chemiker-Zeitung, Cö- 1918, Jahrg. 42, p. 422.) †† **VOA**

luble potato starch is suggested as a itute in the laundry for rice starch.

Stephenson, R. E. The effect of or- matter on soil reaction. (Soil science, Brunswick, N. J., 1918, v. 6, p. 413– **PTK**

tes that starch used at the rate of 10 per acre has little effect upon the soil ion.

stract in *Chem. abst.*, 1919, v. 13, p. 1611.

May control textile starches. (Tex- world journal, New York, 1918, v. 53, 27.) † **VLA**

scusses government restrictions on the f sizing materials. Gives general dis- on on extent of the starch industry.

Traquair, John. The function of in beater sizing. (Paper, New York, Feb. 13, 1918, p. 68, 70.) † **VMPA**

Allen, Paul W. Corn starch in the industry. (Textile world journal, York, 1919, v. 55, p. 3839–3840.) **VLA**

neral discussion.

Blumk, Gustav. Auswahl chemisch- ischer Vorschriften. (Auszug.) nisches Zentralblatt, Berlin and Leip- 919, Bd. 4, p. 16.) **PKA**

ludes recipes for starching prepara- (Glanzstärke).

Starch-paste. (Posselt's textile jour- hiladelphia, 1919, v. 25, p. 53.) † **VLA**

cusses use of thin-boiling starches.

Reaburn. Size mixing and slashing. le world journal, New York, 1919, v. 3357–3358.) **VLA**

s formulas for starch sizes.

Winter, Albert. Über Stärkeersatz- (Färber-Zeitung, Berlin, 1919, Jahrg. 104–105.) † **VLA**

use of glues, gelatin and Irish moss mmended.

act in *Chem. abst.*, 1919, v. 13, p. 2605; *entr.*, 1919, Bd. 4, p. 154.

Allen, S. W., and T. R. Truax. Glues n airplane parts. (United States.— National Advisory Committee for Aeronautics, Washington, 1920, Report no. 66, 28 p.) **VDY**

Includes brief discussion regarding use and properties of starch adhesives which, however, are not used in airplane manufacture.

Abstract in *Chem. abst.*, 1920, v. 14, p. 1461.

2538. Schlichtrezepte für Leinengarn. (Auszug.) (Chemisches Zentralblatt, Leipzig and Berlin, 1920, Bd. 2, p. 344.) **PKA**

The sizes were prepared from wheat or potato meal, in the latter case with the use of Diastafor.

2539. Pomeranz, H. Stärke und Stärkepräparate in der Textiltechnik. (Zeitschrift für das gesammte Textil-Industrie, Leipzig, 1920, Jahrg. 23, p. 84–85.) † **VLA**

Discusses methods of preparing soluble starch and use of various starches with Mg salts.

2540. —— Über Bukskinappreturen. (Auszug.) (Chemisches Zentralblatt, Berlin, 1920, Bd. 4, p. 747.) **PKA**

Uses soluble starch which has been prepared by treatment with $CaCl_2$.

2541. Smith, George. The use of antiseptics in sizing. (Textile manufacturer, London, 1920, v. 46, p. 278–279.)

Available in Library of the Department of Agriculture.

Discusses relative efficiency of 7 antiseptics and gives amounts required per unit weight of starch.

Also in *Color trade journal*, New York, 1921, v. 8, p. 89–90, † *VOA*.

2542. Sizing huck towels. (Textile world journal, New York, 1920, v. 57, p. 3650.) † **VLA**

For the sizing of huck towels and light crashes 4 formulas are given using starches and dextrins.

2543. Traquair, John. Starch and starch-sizing in paper making. (Paper, New York, v. 26, March 24, 1920, p. 11–14.) † **VMPA**

Points out desirable qualities of starch sizes. Oxidized starches are considered unsuitable. Details procedure for the use of feculose. Gives 2 diagrams of Wheelwright process of surface sizing.

Abstract in *Chem. abst.*, 1920, v. 14, p. 2083.

2544. Cathcart, William R. Review of a report on sizing. (Textile world, New York, 1921, v. 59, p. 2895, 2897–2899.) † **VLA**

A thin boiling corn starch, a refined thick boiling alkali corn starch and the ordinary crude pearl starch are used and the follow-

Starches and Dextrins, continued.

Industrial Applications of Starch and Dextrin, continued.

ing points compared: breaking strength of warps, amount of size added, strength of warp and change in warp number. The amount of size added is about equal in the case of alkaline thick boiling starch and thin boiling, while the increased strength is largely in favor of the yarn sized with thin boiling starch. In the case of pearl starch 34% more starch was added to the yarn than with thin boiling starch, although the breaking strength was very much lower. Photomicrographs show penetration of fabrics sized with the various starches.

2545. Klebstoffverbesserungen. (Färben-Zeitung, Berlin, 1921, Jahrg. 26, p. 2101–2102.) **† VOA**

Includes brief discussion of the use and preparation of starch and dextrin adhesives.

2545A. Gaines, H. H. Starch and starch-room methods. (Starchroom laundry journal, Cincinnati, March, 1921, p. 68.)

Available in Library of United States National Museum.

2546. Kirchdorfer, Fr. Einführung in das Klebewesen. (Seifensieder-Zeitung, Augsburg, 1921, Jahrg. 48, p. 598–599, 620–621, 639, 683–684.) **†† 3–VON**

A general discussion in which amylaceous adhesives and sizes are included.

2547. Lloyd, L. L. Discussion on defects in dyeing. (Society of Dyers and Colourists, Bradford, Journal, 1921, v. 37, p. 100–103.) **† VLG**

The use of HCHO as an antiseptic for starch solutions and the use of too large a quantity of NaOH for breaking down the starch cells are both considered objectionable. The question of desizing starches which have been treated with HCHO is discussed.

Abstract in *Chem. abst.*, 1922, v. 16, p. 1870.

2548. Pomeranz, H. Die Kartoffelstärke als Klebe-, Appretur- und Farbenverdickungsmittel. (Leipziger Monatschrift für Textil-Industrie, Leipzig, 1921, Jahrg. 36, p. 173–175.)

Available in Library of the Patent Office.

General discussion.

Abstract in *Chem. Zentr.*, 1921, Bd. 4, p. 1327.

2549. Corn starch. (Posselt's textile journal, Philadelphia, 1921, v. 29, November, p. xxii.) **† VLA**

Briefly discusses manufacture of corn starch and its application in the textile mills.

2550. The **Sizing** of cotton yarn. (Posselt's textile journal, Philadelphia, 1921, v. 29, p. 107–108.) **† VLA**

Discusses use of sago, maize and tapioca starches.

2551. Ruef, E. Etwas über Dextrin. (Zeitschrift für das gesammte Textil-Industrie. Leipzig, 1921, Jahrg. 24, p. 214–215.) **† VLA**

Advises against the use of pure dextrin.

Abstract in *Chem. Zentr.*, 1921, Bd. 4, p. 515.

2552. Smith, G. The sizing of cotton warps. (Color trade journal, New York, 1921, v. 8, p. 147–152.) **† VOA**

Discusses application of starches and dextrins. Wheat, rice, potato, sago and tapioca starches are included as well as gloy, a soluble starch which is sold in a gelatinized condition. Recommends that antiseptics be used with all sizes and lists a number of inorganic and organic antiseptics.

Reprinted with additions in *Textile colorist*, 1921, v. 43, p. 190–192, 335–336, 473–474, 599–600, 688–689, 764–766, 832–834; 1922, v. 44, p. 39–41, †† *VLA*.

2552A. Cluett, E. H. The starched collar. (Starchroom laundry journal, Cincinnati, Oct., 1921, p. 117.)

Available in Library of the United States National Museum.

2553. Stern, Ernst. Über vegetabilische Holzleim. (Journal für praktische Chemie. Leipzig, 1921, N. F., Bd. 101, p. 308–327.) **PKA**

Discusses chemical nature of alkali starches and starch xanthates. Has investigated conductivities and viscosities over varying time periods; results are given in tables and curves. Starch xanthates are found to be efficient substitutes for animal glues in the wood working industries; gives comparative tests of binding powers.

Abstract in *Chem. abst.*, 1921, v. 15, p. 3370; *Jour. chem. soc.*, 1921, v. 120, part 1, p. 226; *Chem. Zentr.*, 1921, Bd. 4, p. 470; *Bull. soc. chim. France*. 1921, série 4, tome 30, p. 774–775.

2554. Improved laundry starch. (Chemical age, New York, 1922, v. 30, p. 142.) **† VOA**

Details method for blending wheat and corn starches.

2555. Adhesives from starch. (Chemical age, New York, 1922, v. 30, p. 323–324.) **† VOA**

Describes preparation of adhesives by heating starch with dilute alkali under pressure and also by preparing the starch xanthogenates.

es and Dextrins, continued.

rial Applications of Starch and Dex-in, continued.

Kirchdorfer, Fr. Einiges über Dex-nd daraus herstellbare Klebemittel. en-Zeitung, Berlin, 1922, Jahrg. 27, p. 034, 3091.) **† VOA**

cussion.

La Wall, Charles H. Glucose as a ıtive of automobile radiator freezing. rican journal of pharmacy, Philadel-922, v. 94, p. 97–98.)

ilable in Library of Columbia College ırmacy.

5–20% solution of commercial glucose o corrosive action on metals or on and does not harden even at -21° C.

ract in *Chem. abst.*, 1922, v. 16, p. 1641.

List, P. Das Abstauben der Ketten Weben und die Ursache. (Zeitschrift s gesammte Textil-Industrie, Leip-22, Jahrg. 25, p. 266.) **† VLA**

results have been obtained with ersalstärke."

). **Mollino,** A. Verdickungsmittel für ıterei und Appretur. (Zeitschrift für esammte Textilindustrie, Leipzig, ahrg. 25, p. 456–457.) **†† VLA**

ly details preparation of sizing s. The use of alkali is included.

Nivling, Walter A. Use of starch in manufacture. (Paper trade journal, ork, v. 75, July 13, 1922, p. 32–38.) **† VMA**

isses significance of amylose and ectin with regard to the character of solutions usually prepared for sizing s. States that adhesive action takes t the instant of transition from so-o the gelatinous state or from the us to the solid state. The addition h to resin size is of particular value ining a finer precipitation of the lso starch which has been swollen dissolved may be added directly to o in the beaters. Highly modified are particularly adapted for surface nd possess an advantage over other s in that more permanent sizing are obtained at less cost. Gives most e conditions for obtaining film for-at the size tub. Briefly describes es of starch in the paper industries.

sed in *Paper*, New York, v. 31, Dec. 20, -9; *Chimie et industrie*, Paris, 1923, v. 10,

2562. Planowsky, N. J. Die beim Kattundruck verwendbaren Appreturmittel, vom kolloidchemischen Standpunkte betrachtet, und ihr Einfluss auf die Färbung des auf der Faser gebildeten Lackes im Zusammenhang mit dem Prozeß des Kattundruckes. (Chemisches Zentralblatt, Leipzig and Berlin, 1922, Bd. 4, p. 551.) **PKA**

Discusses fully the application of starch, dextrin, British gum and other natural sizes.

Abstract in *Chem. abst.*, 1923, v. 17, p. 3102.

2563. Pomeranz, H. Die Prüfung des Dextrins auf seinen Wert als Appreturmittel. (Leipziger Monatschrift für Textil-Industrie, Leipzig, 1922, Jahrg. 37, p. 14–16, 33–35.) **† VLA**

Details requirements for a suitable cloth dressing.

Abstract in *Chem. abst.*, 1922, v. 16, p. 3000; *Chem. Zentr.*, 1922, Jahrg. 93, Bd. 2, p. 815.

2564. Retep, L. Die Appretur. (Zeitschrift für das gesammte Textilindustrie, Leipzig, 1922, Jahrg. 25, p. 366–367.) **† VLA**

Includes brief discussion on the use of starch. "Dreiem Universalstärke" is particularly recommended.

2565. El **Almidon** en la fabricación del papel. (Sociedad de fomento fabril, Boletín, Santiago de Chile, 1922, año 39, p. 688–691.) **VA**

2565A. Starch and its action on fabrics. (Starchroom laundry journal, Cincinnati, Nov., 1922, p. 160.)

Available in Library of the United States National Museum.

2566. Wrede, Hans. Die Anwendung von Maisstärken in der Papierfabrikation. (Papier-Fabricant, Berlin, 1922, Jahrg. 20, p. 1429–1433.) **† VMPA**

Discusses use of starch in writing and printing papers, use of uncooked starch as filler and use of water soluble starch for surface sizing and for art printing paper.

Reprinted in *Paper industry*, 1922–23, v. 4, p. 1368–1371; *Paper*, 1923, v. 31, no. 12, p. 11–14, *† VMPA.*

Abstract in *Chem. Zentr.*, 1923, Bd. 2, p. 109; *Chimie et industrie*, 1923, v. 9, p. 981.

2567. Cooper, W. F. Handling artificial silk in cotton mills. (Textile world, 1923, v. 64, p. 2705–2707, 2713, 2717.) **VLA**

Includes very brief directions for use of starches in machine sizing.

2568. Durst, Gustav. Buchbinderleimen. (Melliands Textilberichte, Mannheim, 1923. Jahrg. 4, p. 232–234.) **VLA**

Gives receipts for starch preparations.

Starches and Dextrins, continued.

Industrial Applications of Starch and Dextrin, continued.

2569. Farrow, Frederick D. Sizing: a review of the literature. (Color trade journal and textile chemist, New York, 1923, v. 13, p. 146–151.) **† VOA**

Includes discussion on preparation and application of starches.

Abstract in *Chimie et industrie,* 1924, v. 11, p. 743.

2570. Huebner, J., and V. Malvin. Effect of metallic salts, of starch and of soap upon the tensile and ripping strain of cotton. (Society of Chemical Industry, Journal, Manchester, 1923, v. 42, p. 66–68T.) **VOA**

Notes that starch slightly decreases the tensile strain and increases the ripping strain.

2571. Marshall, A. Die Appretur (Ausrüstung) der Glasbatiste (Transparente) und Rollbocks. (Melliands Textilberichte, Mannheim, 1923, Jahrg. 4, p. 32–33, 179–180.) **VLA**

Gives a number of formulas using starch and dextrin.

Reprinted in *American dyestuff reporter,* 1923, v. 12, p. 902–904.

2572. Starch for paper manufacture. (Paper industry, Chicago, 1923–24, v. 5, p. 1395–1396.) **† VMPA**

Gives directions and formulas for application of starch in connection with other substances.

2573. Parow, Edmund. Über Versuche, Kartoffelstärke zum Rohstärken (Steifstärken) der feinen Wäsche geeignet zu machen. (Zeitschrift für Spiritusindustrie, Berlin, 1923, Jahrg. 46, p. 33, 39.) **†† VTZA**

Because of its comparatively large granules potato starch is not as well suited for fine laundry purposes as rice starch. Describes process for laundering with potato starch under pressure.

Abstract in *Chem. Zentr.,* 1923, Bd. 2, p. 1219.

2574. —— Dekfa-Griess. (Zeitschrift für Spiritusindustrie, Berlin, 1923, Jahrg. 46, p. 94.) **†† VTZA**

Regarding article of Windisch (*entry 2577*), author maintains that the taste and water content of potato starch meal need not militate against its use in the preparation of beer.

Abstract in *Chem. Zentr.,* 1923, Bd. 4, p. 213.

2575. Wagner, Hans. Aus der Klebstoffindustrie. (Chemiker-Zeitung, Cöthen, 1923, Jahrg. 47, p. 249–251, 289–291.) **†† VOA**

Deals principally with the use of adhesives in the paper industry. Discusses preparation of amylaceous adhesives by heating starch with water, with alkalis and with oxidizing agents and by roasting the starch to form white or yellow dextrins. These products are included in a table giving properties of principal adhesives.

2576. Whewell, W. H. Sizes. (Society of Dyers and Colourists, Journal, Bradford, 1923, v. 39, p. 65–67.) **VLA**

Starch sizes are included in the discussion.

Abstract in *Chimie et industrie,* 1923, v. 10, p. 1138.

2577. Windisch, W. Dekfa-Griess. (Wochenschrift für Brauerei, Berlin, 1923, Jahrg. 40, p. 64, 107.)

Available in Library of the Department of Agriculture.

This substance which is offered in commerce as a malt substitute is shown to be potato starch meal. The latter has a characteristic odor and a higher water content than rice or maize starch.

Abstract in *Chem. Zentr.,* 1923, Bd. 4, p. 212.

2578. Staerkeverdickungen. (Zeitschrift für das gesammte Textil-Industrie, Leipzig, 1923, Jahrg. 26, p. 40–41.) **† VLA**

2579. Curry, W. F. Comparative tests of various sizing materials on artificial silk. (Textile colorist, New York, 1924, v. 46, p. 489–493.) **VLA**

A table is given for 150-dernier viscose silk yarn sized at 38°, showing the weight before and after sizing, sizing materials and softener used, tensile strength in lbs. on Scott tester, stretch in inches and per cent gain, tensile strength per gram, appearance and feel of 33 samples with a wide variety of materials. A 4% solution of modified corn starch with softener gave good results. — *Chem. abst.*

2580. Feibelmann, Richard. Aufschliessen von Stärke mittels Aktivin. (Zeitschrift für die gesammte Textil-Industrie, Leipzig-Reudnitz, 1924, Jahrg. 27, p. 410.) **†† VLA**

Abstract in *Chem. Zentr.,* 1924, Bd. 2, p. 2702.

2581. Dextrin-Seifen-Appreturen. (Melliand's Textilberichte, Mannheim, 1924, Jahrg. 5, p. 387–389.) **VLA**

Translated by Ismar Ginsberg in *American dyestuff reporter,* 1925, v. 14, p. 108–111, *VOR.*

s and Dextrins, continued.

ial Applications of Starch and Dex-, continued.

Nivling, Walter A. Fluidity or vis- of starches. (Textile world, New . 65, May 3, 1924, p. 2999–3003.) **† VLA**

isses significance of the terms "flu- and "viscosity" as applied to starch Further discusses differences in vari- rches, and effect of temperature and als on viscosity.

Sokolinski, J. J. Analysis of sizing ls. (American dyestuff reporter, ork, 1924, v. 13, p. 64–66.) **VOR**

isses preparation and use of corn ato starches.

Sullivan, Owen. Laundering the ft collar. — Suggestions on starch- lars. (Starchroom laundry journal, ati, Dec., 1924, p. 163.) **† VSA**

lesired resiliency and stiffness is ob- y the use of cooked starch.

Sunder, Charles. L'hydrolyse de la ar l'eau oxygénée. (Société indus- le Mulhouse, Bulletin, 1924, tome 58–561.) **VA**

e action of H_2O_2 or of Na_2O_2 on starch suspensions, obtains a especially suitable for finishing fab- onversion by this method is more ory than by malt diastase.

rized in *American dyestuff reporter,* 1925, 77–378, †*VOR.*

t in *Chem. abst.,* 1925, v. 19, p. 745; *chem. ind.,* 1924, v. 43, p. 1010B; *Chimie e,* 1925, v. 13, p. 999.

Woodman, J. Starch. (Textile col- ew York, 1924, v. 46, p. 717–719, 1925, v. 47, p. 232–234, 640–641, 805–806.) **† VLA**

ses determination and sizing value es.

Wasweiler, Th. E. Kritische Be- gen über die Stärkeleimung. (Aus- zug.) (Chemisches Zentralblatt, Leipzig and Berlin, 1925, Bd. 2, p. 1235.) **PKA**

The literature on the sizing of paper with starch is reviewed, especial attention being paid to the investigations of A. Lutz (*entry 2481*), and Blasweiler. Wheat or corn starch is preferable for fine papers. — *Chem. abst.*

2586A. Dyson, G. M. The chemistry of adhesive substances. (Chemical age, London, 1925, v. 13, p. 488–490, 512–514.) **PKA**

Deals very briefly with starch and dextrin adhesives. States that a starch glue may be made by heating starch with phenol or calcium phenate.

2587. Johnson, Arnold H., and C. H. Bailey. Gluten of flour and gas retention of wheat flour doughs. (Cereal chemistry, St. Paul, 1925, v. 2, p. 95–106.) **VPMA**

Find that addition of starch causes an increased rate of fermentation and an increased loss of carbon dioxide.

2588. Krizkovsky, F. L. P. Die Quellstärke und ihre Verwendung in der Schlichte und Appretur. (Textilberichte, Melliand's, Mannheim, 1925, Jahrg. 6, p. 423–424.) **† VLA**

2589. McBain, J. W., and D. G. Hopkins. Adhesives and adhesive action. (Journal of physical chemistry, Ithaca, 1925, v. 29, p. 188–204.) **PKA**

Starch is included among adhesives tested.

Abstract in *Chem. Zentr.,* 1925, Bd. 1, p. 1832.

2590. Seydel, H., and A. H. Reiners. Chemistry at the size kettle. (Textile world, New York, 1925, v. 67, p. 2986, 3047–3049.) **† VLA**

Reprinted in *American dyestuff reporter,* 1925, v. 14, p. 282–284, *VOR; Textile colorist,* 1925, v. 47, p. 298–301, †† *VLA.*

2591. Tromp, E. Die Anwendung von Stärkemehlprodukten in der Papierfabrikation. (Papierfabrikant, Verein der Zellstoff-Chemiker, u.s.w., Berlin, 1925, Jahrg. 23, p. 109–111.) **† VMPA**

Abstract in *Chem. abst.,* 1925, v. 19, p. 1628.

(To be continued)

CIRCULATION STATISTICS FOR THE MONTH OF JUNE, 1927

BRANCHES	CIRCULATION		NEW REGISTRATIONS	VOLUMES ACCESSIONED
	HOME USE (VOLUMES)	READERS OF REFERENCE BOOKS		
MANHATTAN				
Central Building:				
Central Circulation	50,959	---	647	766
Children's Room	2,954	3,143	52	61
Extension Division*	48,220	---	496	553
Library for the Blind	3,481	---	20	288
East Broadway, 33	10,127	1,231	101	389
East Broadway, 192	25,320	3,586	211	927
Rivington street, 61	18,087	1,118	183	135
East Houston street, 388	21,344	2,426	202	296
Leroy street, 66	11,661	537	123	350
8th street, 135 Second avenue	12,875	473	101	478
10th street, 331 East	23,893	2,183	214	388
13th street, 251 West	10,433	1,515	109	114
23rd street, 228 East	10,074	625	174	94
23rd street, 209 West	9,691	1,655	204	384
36th street, 303 East	9,020	848	87	318
40th street, 457 West	9,068	377	97	163
50th street, 564 Lexington avenue	8,074	461	76	65
51st street, 742 Tenth avenue	12,080	581	167	108
58th street, 121 East	11,858	1,200	171	313
58th " 121 " Music Library	2,288	1,489		86
67th street, 328 East	14,898	2,150	180	195
69th street, 190 Amsterdam avenue	12,385	975	161	392
77th street, 1465 Avenue A	16,493	380	116	399
79th street, 222 East	17,249	561	155	319
81st street, 444 Amsterdam avenue	14,456	1,088	210	111
96th street, 112 East	28,826	2,332	169	812
100th street, 206 West	19,271	854	268	429
110th street, 174 East	24,882	2,206	351	247
115th street, 203 West	17,652	1,028	186	520
124th street, 9 West	12,464	712	135	179
125th street, 224 East	10,469	752	168	488
125th street, 518 West	16,888	1,041	149	198
135th street, 103 West	10,748	2,817	164	544
145th street, 503 West	20,133	1,075	213	541
St. Nicholas avenue, 1000	16,735	963	164	285
179th street, 535 West	24,863	1,981	260	584
THE BRONX				
140th street, 321 East	20,422	1,248	238	318
Morris avenue, 910	17,576	1,529	220	450
160th street, 761 East	32,752	3,634	503	946
168th street, 78 West	12,077	2,183	197	260
169th street, 610 East	30,185	2,034	341	1,033
176th street and Washington avenue	36,138	2,334	334	710
Bainbridge avenue, 2556	31,842	1,859	389	280
Kingsbridge avenue, 3041	5,537	502	96	90
RICHMOND				
St. George	7,531	1,852	99	63
Port Richmond	11,232	692	140	128
Stapleton	7,457	326	68	423
Tottenville	4,742	140	26	124
Totals	807,410	62,696	9,135	17,344

* In addition 8,094 books were read at agencies of the Extension Division.

PRINCIPAL DONORS IN JUNE, 1927

	VOLS.	PMS.
e Occidentale Française. ouverneur - - - -	1	
e Israélite Universelle -		4
an Bureau of Metal Sta- s - - - - - - -	322	126
ald, Dr. R. G. - - -		4
obile Association - -	1	
Library Committee - -	1	
Miss Kate - - - -	1	
, Rev. Isaac A. - - -	1	
n. Ministère de l'In- ır - - - - - - -		1
rnest - - - - - -	1	
, Dr. M. D. - - - -	47	706
r, D. - - - - - -	1	
a, Italy. Il Sindaco - -	26	6
nburg Provinz und Ber- andwirtschaftskammer -	2	1
ı, Germany. Statistisches - - - - - - - -		2
rhood of Railroad Train- Grand Lodge - - -	8	
Miss Mary Tileston -	1	
skata Akademiya na itye - - - - - -	9	
ll, Charles Richard - -		1
ın Committee on Modern uages - - - - - -	1	
Miss Jessie F. - - -		1
go, Dr. Arturo G. - -		2
ames R. - - - -		1
Literary Club - - -		1
ca, Governatore della -	1	
story Club - - - -		4,180
Mrs. Mary J. (3) - - - - - - - -		
, George U. - - -	1	
rt, Mrs. John (manu- s, charts, etc.) - - -		
appa Epsilon Fraternity lub - - - - - -	1	
o Svetoga Save - -	8	1
, William F. - - -	1	
Stephen G. C. - - -	1	
Eduskunta - - -	3	
Kikusaburo - - -	1	
John F. - - - -	1	
Switzerland. Biblio- e Publique et Universi- - - - - - - -	1	
Harry - - - -	1	
Miss Margaret (49 pho- hs) - - - - - -		
n Pineapple Company, - - - - - - - -		1
Society of America -	41	42
ıl Press Association -	3	
Stephen H. - - -		1
n, Miss Ida E. - - -	1	

	VOLS.	PMS.
India. Imperial Record Department - - - - - - -	1	
Institut d'Egypte - - - -	1	
Institut Scientifique Macédonien - - - - - - -		2
Jamieson, Thomas. Bequest of the Executors - - - -	1	
Joy, Jesse K. - - - - -		1
Kiesel, Edgar E. - - - -		1
Kornerup, Ebbe - - - -	1	
Lamb, Frank H. - - - -	1	
Leonard, Arthur Gray - -		1
Lima. Camara de Comercia de Lima - - - - - - -		1
MacCarthy, J. F. (18 periodicals, 51 photographs) - -	56	56
Machado, José E. - - - -	1	
Maisel, A. - - - - - - -	1	
Mandel 2, Leon - - - -		1
Marx-Engels Institut (11 periodicals, 1 map) - - - -	12	49
Mendoza, Claudio G. - - -	1	
Morgan, J. Pierpont - - -	1	
Mott, John R. - - - - -	1	
Neuchatel, Switzerland. The Mayor - - - - - - -	1	
Newcomen, George - - -	1	
Nishio, Torazo - - - -	1	
Nolan, J. Bennett - - - -	1	
Osaka Mainichi, The - - -		3
Papua, Territory of. Government Printer - - - -	7	1
Peet, George F. - - - -	1	
Pissarro, L. R. (40 bookplates)		
Reznikoff, Charles - - - -	1	
Schlesien. Staats und Universitäts-Bibliothek - - - -		80
Schleswig-Holstein. Landwirtschaftskammer fuer die Provinz - - - - - - -	8	5
Sfeir, Rev. Peter F. - - -		1
Sigma Phi Society - - -	1	
Stephens, Brad - - - -		1
Sterrewacht Te Leiden - -	7	9
Stringfellow, Mrs. Alice Johnston - - - - - - -	1	
Studium - - - - - - -	22	10
Szacki, Dr. J. - - - - -	1	
Taylor, Moses - - - - -	198	71
Trinity Church Corporation -	4	
Tyler, Mrs. C. B. - - - -	2	
Urquidi, Juan F. - - - -	1	
Welleck, D. (990 periodicals, 32 newspapers) - - - -	2	10
Young, C. Jac (7 prints) - -		
Zysman, S. D. - - - - -	1	

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Editor, Robert R. Finster, 476 Fifth Avenue.

BUILDINGS AND BRANCHES

Central Building, 476 Fifth Avenue, contains general administrative offices of the whole system, all Divisions of the Reference Department, and the Central Circulation Branch, Central Children's Room, Library for the Blind, and the Extension Division.

Municipal Reference Branch, Room 512, Municipal Building. (Free for reference.)

CIRCULATION BRANCHES

MANHATTAN

33 East Broadway. (Chatham Square.)
192 East Broadway. (Seward Park.)
61 Rivington Street.
388 E. Houston St. (Hamilton Fish Park.)
66 Leroy Street. (Hudson Park.)
135 Second Avenue. Near Eighth Street. (Ottendorfer.)
331 East 10th Street. (Tompkins Square.)
251 West 13th Street. (Jackson Square.)
228 East 23rd Street. (Epiphany.)
209 West 23rd Street. (Muhlenberg.)
303 East 36th Street. (St. Gabriel's Park.)
457 West 40th Street.
564 Lexington Avenue. (Cathedral.)
742 Tenth Avenue. Near 51st Street. (Columbus.)
121 East 58th Street.
328 East 67th Street.
190 Amsterdam Avenue. Near 69th Street. (Riverside.)
1465 Avenue A. Near 78th St. (Webster.)
222 East 79th Street. (Yorkville.)
444 Amsterdam Avenue. Near 81st Street. (St. Agnes.)
112 East 96th Street.
206 West 100th Street. (Bloomingdale.)
174 East 110th Street. (Aguilar.)
203 West 115th Street.
116th Street and Amsterdam Avenue. Room 108a, Columbia University Library. (Columbia Sub-branch.)
9 West 124th Street. (Harlem Library.)
224 East 125th Street.
518 West 125th Street. (George Bruce.)
103 West 135th Street.
503 West 145th Street. (Hamilton Grange.)
1000 St. Nicholas Avenue. Cor. 160th Street. (Washington Heights.)
535 West 179th Street. (Fort Washington.)
215 Sherman Avenue. Near 207th Street.

THE BRONX

321 East 140th Street. (Mott Haven.)
761 East 160th Street. (Woodstock.)
910 Morris Avenue. Corner 162nd Street. (Melrose.)
78 West 168th Street. (High Bridge.)
610 East 169th Street. (Morrisania.)
1866 Washington Avenue. Cor. 176th Street. (Tremont.)
80 West 181st Street. (University Heights Sub-branch.)
1741 Wallace Ave. (Van Nest Sub-branch.)
2556 Bainbridge Avenue. (Fordham.)
3041 Kingsbridge Avenue. Near 230th Street. (Kingsbridge.)
3917 White Plains Road. Near 223rd Street. (Williamsbridge Sub-branch.)
325 City Island Avenue. (City Island Sub-branch.)

RICHMOND

5 Central Avenue, Staten Island. (St. George.)
75 Bennett Street. (Port Richmond.)
85 State Street. (West New Brighton Sub-branch.)
132 Canal Street. (Stapleton.)
7430 Amboy Road. (Tottenville.)
56 Gifford's Lane. (Great Kills Sub-branch.)
180 Rose Avenue. (New Dorp Sub-branch.)